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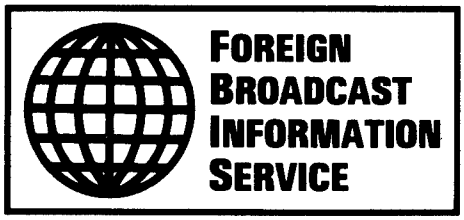
18 FEBRUARY 1988



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ECOWAS Members To Establish Microwave Link

34000197 Lagos DAILY TIMES in English 13 Nov 87 P 24

[Text] Member states of the Economic Community of West African States (ECOWAS) may soon be linked with microwave telecommunications network if the ongoing projects are completed.

Communications Minister, Col. Tanko Ayuba, said in Lagos yesterday when he opened the six point ECOWAS/PANAFTEL co-ordination meeting that the projects have been made possible by the executive secretariat of ECOWAS and the ECOWAS fund for technical co-operation.

Member-states to be linked by the micro-wave are:

—Nigeria to Niger via Sokoto and Birni-N'Konni,

—Benin to Burkina Faso through Progo and Fada Ngourma,

—Ghana to Burkina Faso through Bolgatanga and Po,

—Cote d'Ivoire to Mali via Korhogo and Sikasso,

—Senegal to Gambia through Ziguinchor and Banjul and

—Senegal to Guinea Bissau via Ziquinchor and Cacheu.

According to the minister, in addition to providing the infrastructures, the ECOWAS secretariat had also provided other supportive projects in the field of training, maintenance and operations.

Col. Ayuba said all these achievements were made possible through the co-operation of telecommunications administrators of member-states of the community. He then charged participants at the meeting to ensure effective coverage of all the states by next year.

"The objectives of this sixth joint meeting of ECOWAS co-ordination committee is to continue the work so far started with the same spirit of co-operation so as to be able to achieve effective interconnection of the West African telecommunications network, thus enabling us to enjoy direct inter-state telecommunications services, without hiring the services of foreign multi-nationals.

08309

GHANA

FRG Ambassador Donates FM Transmitter to GBC

AB152124 Accra Domestic Service in English 2000 GMT 15 Jan 88

[Text] The West German ambassador, Mr Vogel, today handed over a new FM standby transmitter and equipment and spare parts to reequip the GBC [Ghana Broadcasting Corporation] training school at the GBC in Accra. The equipment is worth 10.7 million cedis. Handing over the equipment to the director general of the GBC, Mr Fifi Hesse, Mr Vogel recounted the longstanding tradition of cooperation between Ghana and West Germany especially in the sphere of radio broadcast.

GUINEA

Telegraph, Telex To Link Conakry, Freetown

AB151410 Conakry Domestic Service in French 1945 GMT 14 Dec 87

[Excerpt] Cooperation between Conakry and Freetown is being fostered and strengthened. The two capitals will soon be linked by telegraphic cable and telex. Also, an accelerated mail delivery system will be established. These are some of the decisions made at the meeting of the joint technical commission on posts and telecommunications. The telecommunications project will include a link of 6 to 12 telephone, telegraph, and telex lines. [passage omitted]

NIGERIA

NITEL Digital Project Estimated to Cost $200 Million

55000004 Lagos DAILY TIMES in English 24 Dec 87 p 24

[Text] The first phase of the proposed Nigerian Telecommunications digital network would cost more than N800 million when the project takes off early next year.

But officials at NITEL headquarters are saying that with the current economic down-turn, high inflation, and the fall in the value of the naira, the project price may be higher.

NITEL's director of planning, Mr Folagbade Alamuduh told the Daily Times that "the digital system would complement the present analogue, and because of the present accommodation problem in the Lagos State network, the first phase would be sited in Lagos."

Although Mr Alamudun was not definite on the take off, he said, "we thought the project would have taken off in 1985, but because of the economic situation, and NITEL's inability to find a financier, the project had to be delayed up to this time."

He added: "Right now, any new equipment we buy has to be digital, and some units of digital will be introduced next year and in 1989."

On safety measures to ensure smooth transmission, through the digital network, Alamudun said: "the place where the equipment will be installed will be a highly restricted area and maintenance crew must obtain permission to get into the installation room."

Early next year, about 400 higher diploma graduates would be trained by NITEL at Oshodi and Kano training centres to handle the digital equipment according to NITEL's deputy director of training, Adebayo Adebajo.

In addition, 30 NITEL engineers who were sent to India to study digital installations returned to Nigeria after more than 40 weeks stint in India.

08309

SOUTH AFRICA

RSA: Boputhatswana Television To Lease Intelsat Transponder

MB111856 Johannesburg SASPA in English 1545 GMT 11 Dec 87

[Text] Mmabatho Dec 11 SAPA—THE Bophuthatswana minister of broadcasting, Mr K.c.v.a. Sehume, announced in Mmabatho today that the government has decided to lease a transponder from Intelsat to expand radio and television transmission coverage in Bophuthatswana.

He said that by making use of this technology, Bophuthatswana broadcasting remained one the leaders in utilising state-of-the-art television technology. People living in the Bophuthatswana areas that could not receive BOP [Bophuthatswana]-tv's programmes would now be able to enjoy the same service as the rest of the country.

"In the future, radio and television programmes will be distributed by satellite from an originating up-link at broadcast centre in Mmabatho via satellite to ground stations anywhere in the country.

"Initially it has been decided to erect television ground station at Madibogo, Taung, Kuruman, Ganyesa, and Thaba Nchu. Residents of Thaba Nchu will in addition be able to receive Radio Bop and Radio Mmabatho for the first time."

Mr Sehume said the total cost of the project will be about R14 million plus R1.6 million annually for the lease of the transponder. Bophuthatswana's technical consultants had already done a considerable amount of preplanning and the project was expected to be completed by the end of next year or early in 1989.

Telesat Sells Anik C Satellite to U.S. Company

55200002 Ottawa THE OTTAWA CITIZEN in English 9 Sep 87 p C9

[Text] The sale of a "spare" Anik C Satellite to a U.S. communications company for $86 million, plus a $14 million servicing contract, will help Telesat Canada launch its latest series of Anik E satellites, says a Telesat spokesman.

Telesat announced Tuesday it has sold *Anik C1* to Pan Am Pacific Satellite Corp., a U.S.-based joint venture of Pan Am Commercial Services and Johnson Geneva (USA) Ltd.

The firm will offer satellite transmission to Pacific Rim countries under the name PacificStar Regional Satellite System.

In addition, Telesat has contracted to operate and control the satellite until PacificStar can build its own control centre.

C1 has been "parked" 36,000 kilometres above the equator since it was launched by the *Discovery* space shuttle in 1985.

It became surplus to Canada's satellite needs after slower-than anticipated business growth, including reductions in satellite usage by ground-based telecommunications carriers, said Telesat spokesman Mike Bryan.

Two other Aniks, the *C2* and *C3*, so far have been sufficient to meet the need, the company said.

"But with launch costs and launch insurance becoming so expensive since the *Challenger* tragedy, it became advantageous to keep the spare parked," said Bryan.

Bryan said the revenue from the Anik will help reduce some of the borrowing required for the $500-million launches of two new Anik E satellites, scheduled for 1990 aboard the French-built Ariane 44P rockets.

The satellites, worth $200 million, are being built by Spar Aerospace off Ste. Anne de Bellevue, near Montreal.

Ottawa-based Telesat Canada, 50 per cent owned by the federal government, reported a profit of $13.5 million on revenue of $105 million in 1986.

/12913

Gandalf Announces Starmaster Integrated Network System

55200011 Ottawa THE OTTAWA CITIZEN in English 24 Sep 87 C10

[Article by Kathryn May]

[Text] Gandalf Technologies announced Tuesday it will produce a new computer network system it says will revolutionize the computer industry and nearly quadruple its annual sales to $500 million by 1992.

Desmond Cunningham, one of Gandalf's founders and board chairman, said the new Starmaster line of products will allow companies to link all their computer systems, regardless of makes or models, into one central network.

This means a company now using various computer systems—whether manufactured by Apple, Digital, IBM or any of its clones—will be able to connect the systems so they can talk to one another for the first time.

"This breakthrough makes the end users truly master of their computers and equipment, allowing them to integrate systems throughout their companies regardless of who manufactured them," Cunningham said.

Starmaster connects existing networks and bridges personal computers, mainframes, command structures and carrier services so users can access all a corporation's information bases. And it links everything without changing the way an operator now uses his computer equipment.

The development adds a new dimension to the multimillion computer industry, which is dominated by computer companies that have a vested interest in controlling the networks that connects their products, Cunningham said.

It opens up the market and gives customers the freedom to link different brands of computers, software, equipment, carrier systems and transport technologies.

Cunningham said the obvious advantage of consolidating a company's communication system is a drastic reduction in costs and improved efficiency of its operations.

"We believe it puts Gandalf at least 2 years ahead of the industry, offering unheard of productivity improvements through unprecedented connectivity," Cunningham said.

Starmaster will be introduced to world markets at the Telecom '87 show in Geneva, Switzerland, in October, with the first systems ready for delivery as early as December.

Gandalf is a leading designer, manufacturer and supplier of an broad range of electronic and data communications equipment and information networks systems.

Founded 17 years ago, Gandalf pioneered the development and sale of the short-haul modem to transmit data up to 21 kilometers between terminals and a central computer. Its short-haul modem sold for one-third of the cost of the long-haul modems which then dominated the market.

Its next major development came in 1974 with its PAX system, a device for switching data calls between terminals and computers.

The Starmaster products, however, move Gandalf from a vendor of individual products to a major systems integrator.

Cunningham said Gandalf is still producing its mainstay products, but its marketing strategies will now be aimed at finding solutions for companies that want to integrate the hardware and equipment they've invested in over the past 30 years.

It's a move the company is expecting will increase its annual revenues to $500 million by 1992 from the $130 million projected this year.

The production of its network system is a key part of Gandalf's ambitious expansion plans. Sporting a new corporate logo Gandalf piggybacked its Starmaster announcement with the official opening of its new head office at 130 Colonnade Road.

The new $13-million facility will house the 300 research and development staff now working at seven locations scattered throughout the Ottawa area. Gandalf spends about 22 percent of its revenues on research and development.

The new centre is part of a $40-million development Gandalf has planned for its 22-acre site at the Colonnade Industrial Park. It recently broke the ground for the construction of its Circtronics plant, which will produce printed circuit boards.

/12232

CNCP to Set Up Government Communications Network

55200003 Toronto THE GLOBE AND MAIL in English 10 Sep 87 p B4

[Text] The federal Government has signed a five-year, multimillion-dollar contract with CNCP Telecommunications of Toronto for the provision of cross-country data communication services.

The Government Telecommunications Agency estimated volume discounts provided for in the contract will save Ottawa about $8-million. Communications Minister Flora MacDonald said.

Various Government departments and agencies will obtain services from CNCP over the next five years for about $32-million.

Under current rates, the same services would cost about $40-million, CNCP president George Harvey said.

Mr. Harvey added that under the contract CNCP will supply the Government with a private switching operation. It will be administered by officials of the Government Telecommunications Agency.

CNCP's InfoSwitch Network will be used for the transmission of the data to and from various Government offices across the country. The federal Government is the largest user of telecommunications services in Canada.

Mr. Harvey said the contract will allow CNCP to expand InfoSwitch service into additional areas, double the size of the network, and eliminate some off-network charges for its private sector customers.

CNCP is a partnership formed in 1980 and is wholly owned by federal Crown corporation Canadian National Railway Co. and by Canadian Pacific Ltd. of Montreal.

/12913

Nortel Bahamas Contract

55200016 Ottawa THE OTTAWA CITIZEN in English 6 Nov 87 p A13

[Text] Northern Telecom has won a $5-million U.S. contract that will make talking on the telephone better in the Bahamas. The contract, awarded to Northern's Caribbean and Latin America marketing subsidiary. Northern Telecom (CALA) Corp., is to add a 15,000-telephone-line expansion and 51 computerized traffic operator systems to the Bahamas telephone company central exchange. The traffic operator systems called TOPS, replace manual switchboards and increase efficiency and productivity. Also included in the project is an international exchange switch that will allow Bahamians to direct dial to other countries.

08309

Long-Distance Commonwealth Education Network Planned

55200012 Vancouver THE SUN in English 19 Oct 87 p A10

[Text] Canada and B.C. will contribute $12 million to the creation of a distance education network with the system's headquarters based in Vancouver, federal communications Minister Flora MacDonald announced Saturday.

Speaking at the Commonwealth summit, MacDonald said the Canadian and British Columbian governments will equally finance up to one-half of the network's facilities and operating costs for the first 5 years.

The network's aim is to provide courses to the Commonwealth countries via satellite and television.

The minister said the costs of the Vancouver coordinating centre and the number of local jobs it will produce are not yet known.

MacDonald said Canada is well-suited to coordinate the network because "Canada has had to find ways to overcome vast distances and a small population, and learn how to develop linkages."

She said the network will draw on the technical knowledge already used by similar provincial education networks such as B.C.'s Open Learning Institute and Knowledge Network.

MacDonald said the distance network is not a retreat from an earlier proposal for a new Commonwealth open university.

"You can't suddenly have an open university without doing the preparatory work, especially in terms of technology," she said.

About 5 years ago, a Commonwealth committee produced a report by British historian Lord Asa Briggs calling for the creation of a Commonwealth open learning network.

MacDonald said the network "eventually could lead to the proposal" urged by Lord Briggs.

/12232

Remote-Sensing Satellite Station To Get New Antenna

55200013 Ottawa THE OTTAWA CITIZEN in English 7 Oct 87 p B3

[Text] The federal government satellite receiving station in Gatineau is getting a new $3 million antenna.

The antenna will receive data from a new generation of radar-equipped remote sensing satellites that can "see" through clouds and darkness.

The station was built to receive data from a French satellite known as SPOT. But when the new antenna is ready to go in the fall of 1988, the Gatineau ground station will be able to track new Japanese and European Satellites, said Claudy Mailly, MP for Gatineau.

She made the announcement on behalf of Forestry and Mines Minister Gerald Merrithew.

Remote sensing satellites monitor forests, crops, geology, ocean currents and ice movement.

The Gatineau ground station will also be the principal Canadian station for the reception of data from RADARSAT, Canada's first remote sensing satellite, which will be launched in 1994.

About 11 kilometres from Parliament Hill, the station was built near Ottawa so data from earth observation satellites could be received when they passed over eastern Canada and the United States.

The current hilltop antenna has an unobstructed view of satellites from horizon to horizon.

When the new antenna is installed, 3 technologists will be added to the 10-member staff.

/12232

Impasse Reported on National Telecommunications Policy

55200018 Toronto THE GLOBE AND MAIL in English 14 Dec 87 p B9

[Article by Lawrence Surtees]

[Text] Federal and provincial officials are at an impasse in their bid to develop a national telecommunications policy, Quebec Communications Minister Richard French says.

A disagreement over provincial jurisdiction to regulate telephone companies within the boundaries of a province is creating the impasse and runs counter to assurances by federal Communications Minister Flora MacDonald that a pact is imminent.

Ottawa is proposing to treat three provinces that are served by federally regulated telephone companies—including Quebec—differently from their counterparts with provincially regulated utilities, leading to the dispute.

The federal Government does not want Quebec and Ontario to gain powers that could lead those provinces to regulate Bell Canada or lead British Columbia to regulate British Columbia Telephone Co.

Ottawa's refusal to give Quebec powers similar to those of the other seven provinces raises a question of fairness, regardless of whether Quebec wants to regulate Canada's biggest telephone company, Mr French said.

At stake is the attempt to develop a single set of rules on competition and the effort to develop better ways of regulating Canada's 11 largest monopoly telephone companies.

A single national policy is needed because jurisdiction over the telephone companies is fragmented, leading to different rules applying to customers in various parts of the country.

But the stalemate over provincial powers has jeopardized an agreement to work toward a single policy reached by the 11 communications ministers in Edmonton last April. And despite Miss MacDonald's assurances to telephone company executives recently that an agreement is near, the ministers failed to meet at the bargaining table as scheduled last month and in September because of the disagreement.

"There is a general perception that Miss MacDonald has lost control of the process and lost the momentum that was moving the governments toward an agreement," said a senior official with a provincial Government who asked not to be identified.

Miss MacDonald was also widely criticized this summer for making a telecommunications policy statement that was attacked as premature, shallow and deficient.

If the governments fail to reach an agreement, the federal Government could be forced to rely on a pending decision from the Supreme Court of Canada that could leave nothing for the provinces.

The court reserved judgment after hearing arguments last month on a case asking it to establish whether the federal Government has the sole constitutional jurisdiction to regulate every domestic telephone company. The case involves CNCP Telecommunications of Toronto and provincially owned Alberta Government Telephones.

The Federal Court of Appeal ruled that AGT is subject to federal jurisdiction under the Constitution because it is connected to other telephone companies. The prospect of a Supreme Court ruling in Ottawa's favor had moved the provinces to the bargaining table.

"But some versions of the federal Government's position as articulated by their officials in recent months is that what's good for some provinces is not good for others," Mr French said.

An attempt to obtain Miss MacDonald's comments on the status of the negotiations was unsuccessful. Miss MacDonald and Mr French are co-chairmen of the negotiations.

At issue are the federal Government's proposals to share jurisdiction over interprovincial matters with only seven provinces.

Ottawa is proposing to maintain the status quo on regulation within provincial boundaries. Jurisdiction over interprovinical matters would be shared through a joint board. But only the three Prairie and four Atlantic provinces, which currently regulate matters within provinces, would have seats on the board, along with the federal Government.

Mr French said he concurs fully with the critique of that plan delivered in September by McGill University professor Richard Schultz, who is also director of the Centre for the Study of Regulated Industries.

"Such a system is highly discriminatory and detrimental," Mr Schultz said in a speech to a telecommunications industry trade association. "It is not in the best interest of Ontario, Quebec and British Columbia, or of Bell Canada or indeed of the Canadian Radio-Television and Telecommunications Commission."

Although Mr Schultz argued that a two-tier form of regulation split between intra- and interprovincial activities is desirable, he said the current proposal is unacceptable. Ottawa should either treat all provinces equally or retain exclusive jurisdiction over all telecommunications matters.

Quebec's refusal to accept Ottawa's plan is not an attempt to grab jurisdiction over Bell, as some other provincial governments think.

"We're just looking for equal treatment and we simply want the same rights and powers that other provinces will have," Mr French said.

He also affirmed his earlier position that Quebec does not currently wish to regulate Bell and that any such desire would require Ontario's co-operation and changes to federal laws. That is because Bell provides service in both provinces.

Bell is not opposed to provincial regulation, but is against any scheme that would require it to submit to two levels of regulation, Bell president Leonce Montambault said in an interview earlier this year.

/9274

Teleglobe, Sita Plan Aeronautical Mobile Satellite Service

55200019 Toronto THE GLOBE AND MAIL in English 8 Dec 87 p B32

[Text] Teleglobe Canada Inc and the Societe Internationale de Telecommunications Aeronautiques (SITA) have signed an greement to jointly develop, implement and offer aeronautical mobile satellite communications services worldwide.

The aim is to improve safety in the air. As well as improving voice and data communications with the cockpit, high-quality mobile telephone service will become feasible from commercial aircraft—as it is now from automobiles.

The services will be available by the end of 1989 to the 334 airline companies members of SITA through Canadian earth stations. Plans call for the construction of two stations in Quebec and British Columbia to provide communications spanning the Atlantic and Pacific oceans as well as the continental Western Hemisphere.

Teleglobe Canada Inc is a subsidiary of Memotec Data Inc of Montreal.

/9274

Beijing International Telecommunications Office Opens

55000001a Beijing XINHUA in English
0734 GMT 23 Dec 87

[Text] Beijing, 23 December (XINHUA)—Starting today, people in Beijing are able to use international direct dialing to call overseas. This is when the Beijing International Telecommunications Office—China's first special-use gateway to international telecommunications—officially starts operating.

Covering a floor space of 13,467.5 square metres, the Beijing International Telecommunications Building is near the Sanyuan Flyover in northeastern Beijing. It is surrounded by foreign embassies, deluxe hotels, and foreign trade organizations. Total investment for the project was 48.51 million yuan.

According to an official from the Ministry of Posts and Telecommunications, the project has a 400-CCT's system of telephone switching exchange manufactured by BTM of Belgium, a 3,000-line telex switching exchange made by Siemens Corporation of the Federal Republic of Germany, and the microwave systems made by GTE Company of Italy. These formed a modern telecommunications network which links China with the world.

The official said that callers from Beijing will be able to call over 100 countries and regions using direct dialing including Japan, Hong Kong, the Untied States, France, and Italy.

3293/12913

HONG KONG

Government Set To Limit Foreign TV Station Ownership

55400023 Hong Kong HONGKONG STANDARD in English 28 Dec 87 p 2

[Text] The Executive Council is set to "satisfactorily resolve" the limit of foreign ownership of local television stations.

Executive and Legislative Councillor Mr Allen Lee said yesterday the council was expected to reach a decision on the percentage some time next month.

But Mr Lee, who is also the chairman of the Broadcasting Authority, refused to disclose details.

He would only say that he believed the final percentage might be higher than the 20 percent limit imposed in Australia.

The Broadcasting Authority has sent a proposed set of licensing conditions for the two television stations to the Governor-in-Council.

The original schedule is due to get the go-ahead before the end of this month to allow the stations time to study the terms.

But the plan was delayed due partly to the controversy surrounding the proposal limiting foreign ownership of Hongkong's television stations.

It was learned the authority had recommended a 20 percent limit on foreign ownership. The present limit is 75 percent.

The two television stations have pressured the Government and the authority to relax the limit.

The STANDARD has learned there is a possibility the authority may soften its stance.

Mr Lee, speaking after officiating at the opening ceremony of "Carnival Day" at Ocean Park yesterday, said the authority had studied the models in other countries before it made its recommendations.

Yesterday's Carnival Day was organised by the Outstanding Young Persons' Association to celebrate its 10th anniversary and to raise funds for its charitable trust.

/9604

JAPAN

CS-3 Communications Satellite to be Launched 16 February

55600010 Tokyo KYODO in English 0746 GMT 18 Jan 88

[Text] Tokyo, 18 January KYODO—The National Space Development Agency (NASDA) plans to launch a CS-3 series communications satellite on 16 February, NASDA officials said Monday.

The officials said the satellite will be sent into geostationary orbit by an H-1 rocket from the Tanegashima Space Center in southern Kagoshima Prefecture.

The satellite, codenamed CS-3a, is the first of a pair of advanced communications satellites designed for use in Japan.

The launch, originally scheduled for February, had previously been cancelled as a result of faulty electronic chips in the guidance system.

The chips, made in the United States, were later replaced, and the guidance system is now working properly, NASDA officials said.

/12232

Thailand

TV Network Expansion

54004301a Bangkok BANGKOK POST in English 8 Jul 87 p 1

[Summary] The Cabinet 7 July acknowledged earlier approval given by Prime Minister Prem Tinsulanon for the Mass Communications Organisation of Thailand (MCOT) to expand the network of TV channels 9 and 3 in cooperation with Bangkok Entertainment Company (BEC). Under the program, BEC will pay the cost, estimated at no less than 895 million baht, for setting up 22 relay stations in MCOT once the construction of the buildings and installation of transmission equipment are completed. In return, BEC will be allowed to operate TV Channel 3 for 20 years from 1990 to 2010 during which time the company will pay 1,205.15 million baht on royalties to MCOT.

9365

Land Satellite Relay Stations Contracted

54004301b Bangkok BANGKOK POST in English 8 Jul 87 p 1

[Text] The Communications Authority of Thailand (CAT) has decided to award a 116-million baht contract to NEC Co Ltd for the installation of nine land satellite relay stations.

Deputy Communications Minister Suraphan Chinawat said the contract was expected to be signed by the end of the month.

Mr Suraphan said NEC was the most suitable firm to carry out the work as the company not only submitted the lowest bid price but its products also met all the high standard specifications determined by CAT.

He said CAT originally called for tenders for the installation of the relay stations in 1984, but postponed the project until now because of the high prices and low quality equipment proposed.

Of the 116 million-baht total cost, about 108 million baht is destined for the relay stations themselves, while the remaining 8 million baht is for construction costs.

The project will increase CAT's total number of land satellite relay stations from 16 to 25 and enable the authority to provide much more efficient local and international telecommunications services.

9365

New TV Relay Station

54004301c Bangkok Domestic Service in English 0000 GMT 27 May 87

[Text] The Public Relations Department's [PRD] newly completed television station in Udon Thani Province will improve the viewing of programs from two stations of the department in the 56 km radius of Udon Thani, which will also cover Vientiane.

PRD Director General Chamnong Kumanwisai said that the department will try to present programs on its television Channel 5, which broadcasts in Khon Kaen, and Channel 11 in Bangkok to promote a better understanding between the Thai and Lao.

The construction of the TV relay station in Phen District of Udon Thani was completed last Saturday [23 May]. The Public Relations Department has a plan to build similar stations in Surin and Ubon Ratchathani provinces to help bring government TV programs to the home of the northeast people.

The new relay station in Udon Thani will benefit televisio viewers in Nong Khai, Sakon Nakhon, Loei, and Yasothon.

9365

INTER-AMERICAN

Caribbean News Agency, Broadcast Group Weigh Merger

55400015b Bridgetown CANA in English
2059 GMT 16 Dec 87

[Text] Bridgetown, 16 Dec—Two of the region's major news media institutions, the Caribbean News Agency (CANA) and the Caribbean Broadcasting Union (CBU) have started initial talks on the formation of a new company to improve and increase indigenous programming for the electronic media.

In a joint statement issued today, the two organisations said it was clear that if the problem of regional programme development were to be resolved it was essential that CANA and the CBU collaborate more closely.

What is now being proposed is that the radio arm of CANA be merged in a joint venture company with the CBU, an umbrella grouping for the region's electronic media. It is also conceivable that other regional organisations involved in telecommunications will be invited to participate in the venture.

Both CANA's board of directors and the CBU's management committee have met separately and agreed in principle to the proposal. The next step is for the two organisations to meet in working sessions culminating in a joint board meeting in February next year.

Mr Oliver Clarke, chairman of CANA, said, "The formation of a new broadcasting company to concentrate on the expansion of services for the electronic media is very important in projecting an image of caribbean regionalism.

"CANA's radio department has done a marvelous job in a short time, and the interest of radio and regionalism will be better served as a result of other direct involvement of the radio stations."

Mr Lester Spaulding, president of CBU and a member of the CANA board of directors, said, "The CBU's service to the Caribbean is well known. But the time has come for these two organisations to work hand in hand because it is clear that their objectives in radio news, television news exchanges, programme development, and coverage of international events relating to the region, are identical."

"Having two organisations carrying out similar functions can be a needless and perhaps wasteful duplication of effort," Mr Spaulding added. Both CANA and the CBU have their separate headquarters sited in Barbados.

/9274

Trinidad Paper Discusses Caribbean Radio Propagation

55400015a Curepe THE BOMB in English
6 Nov 87 p 23

[Text] Plymouth, Montserrat—Who rules the airways in the region?

Is it the BBC, VOA, Radio Havana or Radio Moscow?

They all fill second slot after Big A, Radio Antilles in Montserrat.

Not even pip-squeak Trini NBS 610 Radio or Radio Trinidad 730 could make a dent in the five million English listening audience in the region.

The two local radio stations in Trinidad are barely audible in Margarita in the west and St Vincent in the north.

Radio Antilles based on the tiny island of Montserrat could be heard almost to the bottom of Guyana on the Brazilian border outdistancing VOA and the CIA relay station in the region.

In Guyana, however, the 500,000 Mudheads virtually live in a silent world, because the Guyana Broadcasting Corporation (GBC) is difficult to operate, because of lack of spares and only a handful of people in the city are able to hear the programmes beamed on the FM channel.

On the other hand, Guyanese are bombarded with an abundance of programmes in Spanish and Portuguese aimed at them from Venezuela and Brazil.

As a matter of fact many programmes are dedicated to the Guyanese on these foreign programmes.

The VOA on 1580 Kcs is not powerful enough to keep listeners abreast of CIA propaganda from the Whitehouse.

The BBC, however, relayed over regional stations, have a good night-time audience and competes strongly with programmes in English from the Soviet Union and Cuba to listeners in Caricom.

Trinidad-Tobago needs short wave broadcasting to keep Trinis abroad abreast of what is happening here and in the region.

Locals holidaying in nearby Margarita are unable to hear distinctly what is taking place in the news back home.

Once upon a time there was a shortwave programme from Trinidad, but it was discontinued.

Radio broadcasting is very cheap but it seems that the NAR, like the PNM has no intention of blowing its trumpet in the air.

Guyana also had a shortwave broadcast but the absence of foreign currency and exodus of skilled technical and communications experts, allowed radio broadcasting to be nothing more than shouting through a window to keep the neighbourhood entertained.

/9274

ANTIGUA AND BARBUDA

Radio-Monitoring Capability Turns Up Illegal Band Use

55400019 St Johns THE WORKERS VOICE in English 5 Dec 87 p 5

[Text] The Telecommunications Department is advising the General Public that it now has facilities for Monitoring the Radio Spectrum.

It has been observed that persons are using the Marine Band illegally.

The portion of the Radio Spectrum allocated to the Marine Services, is restricted to ship-to-ship and ship-to-shore communication.

Communication in the Marine Band between two fixed stations and communication between two land mobile stations is prohibited.

A special licence for communication in the Marine Band between a land mobile and a fixed station, may be granted to all shipping agents and operators of sailing vessels, upon application to the Ministry of Public Works and Communication.

Failure to comply with the above regulations will lead to prosecution or confiscation of the equipment, or both.

/9604

BAHAMAS

Telephone Digital, Fibre Optic Projects Under Way

55400009 Nassau THE TRIBUNE in English 7 Nov 87 p 2

[Text] Bahamas Telecommunications and Northern Telecom Friday commissioned the latest phase of a $5 million modernisation of the Bahamas' telecommunications system.

General manager Robert Bartlett, outlined at a press conference Thursday, the various aspects of the project, which will improve operator efficiency, expand the number or telephone lines available and improve international service.

He said that the project with Northern Telecom is made up of 51 Traffic Operator Position Systems (TOPS), as well as a 15,000-telephone-line expansion to Batelco's Central IV Digital Exchange. The computer terminal TOPS positions replace the old-style manual cord switchboards. The TOPS terminals increase efficiency and productivity, as they eliminate the majority of the paperwork associated with requests for operator assistance.

The DMS-100 central office extension not only increases the number of lines available, but also enhances the level of service offered to these new subscribers by BaTelCo. BaTelCo now has 100 percent digital service in Nassau.

Included in the project is a DMS-300 international exchange. This switch, which interfaces with international circuits, offers direct dial between the Bahamas and other countries, meets international signalling requirements, and initially provides 450 trunks for telephone traffic.

Emile Gratton, president, Northern Telecom Corp, which markets and sells Northern Telecom products in the Caribbean and Latin America, said the modernized network allows BaTelco to offer its customers "a level of telecommunication service that equals or surpasses any available."

"A country whose principal industries are as information-intensive and communications-intensive as The Bahamas must have a world-class telecommunications system to compete effectively in today's global economy," said Senator Edison Key, chairman of the BaTelCo board.

"Our tourism and banking industries need state-of-the-art telecommunications to maintain an edge over their competitors.

"Unlike the past, when a delay of a few hours or days could be tolerated, today those hours, even those minutes, can make the difference between gaining or losing important business.

"Effective communications is not a luxury in commerce today it is a necessity," he said.

In addition to this phase of the BaTelCo modernization programme, a 30-mile network of fiber optics cable is being installed to connect six central offices in the Nassau region.

The Northern Telecom FMT-45 fiber optics multiplex terminals connected by this cable provide New Providence subscribers with a wide range of high capacity, high quality, voice and data services.

This separate fiber optic programme contract between BaTelCo and Northern Telecom is valued at $650,000.

A third contract, valued at $4.4 million, will expand BaTelCo's digital telecommunications network when 19 smaller capacity DMS-10 remote telecommunications switches and three DMS-1 rural subscriber carrier systems go into service. This equipment will allow BaTelCo to accommodate an additional 7,000 subscribers on the Family Islands of Abaco, Eleuthera, Exuma, Andros, Long Island and the Berry Islands by the end of 1987.

Northern Telecom CALA is a subsidiary of Northern Telecom Ltd., the world's leading supplier of fully digital telecommunications systems and a major supplier of integrated management systems for the office. Its revenues in 1986 were approximately $4.4 billion. The corporation's common shares are listed on the Montreal, Toronto, Vancouver, New York, London and Tokyo stock exchanges.

/12223

BARBADOS

Two New Pay-TV Channels Added to Local Service

55400010 Bridgetown DAILY NATION in English 16 Nov 87 p 24

[Text] The long-awaited subscription Television Service (STV) starts today.

That's when the first Barbadians get connected to two new channels being offered at $25 for one or $35 for both.

The Caribbean Broadcasting Corporation (CBC), in a release yesterday, said channels 14 and 18 on the UHF band would provide the new service, which will possibly include cricket.

"Channel 14 will carry movies, soap operas, comedies and other entertainment features.

"Channel 18, the education and sports channel, will package documentaries and sports from the American ESPN channel. CBC plans to make every effort to include cricket in this service," the release said.

Viewers will have to pay an initial charge of $205 for both channels or $175 for one. This includes the installation cost of $100 for the special UHF antennas and decoder boxes for subscribers, plus three months advanced payment.

The corporation said a 21-day free service period (between November 23 and December 14) would be offered to persons who have early installations.

The release stated: "In phase one of STV, only those homes with antennas which are in line of sight of the CBC tower at Sturges will be able to receive clear reception. Those homes will receive the service first."

The corporation said field measurements conducted over the past six months identified areas of strong reception within the parishes of St. Michael, St.Thomas, St. Philip, St. Peter and Christ Church.

It added there would be some homes in other parishes that would be able to receive a clear picture and these could have installation under phase one.

/12223

BELIZE

Nation's Telecommunications System Nationalized

Compensation Negotiations

55400020 Belize City THE REPORTER in English 13 Dec 87 p 11

[Text] Belmopan, 8 Dec—The British telecommunication company, Cable and Wireless, will be paying out about Bze $.5 million to its 65 local employees in "severance" pay, before the company packs up and leaves Belize.

The General Manager of Cable and Wireless' operation in Belize, Mr Tony Wright, has said that the local employees will be receiving what he called "terminal gratuities" as the company's policy of rewarding its employees for long service.

Employees who have been with the company in Belize for 9 years or more will receive 4 weeks' pay for each completed year of service while those employees who have been with Cable and Wireless in Belize for 7 or 8 years will get 3 weeks' pay for each year of service. Employees who have been with the company for less than 7 years will receive 2 weeks' pay for each year of service.

With the nationalization of the Belize telecommunication system which is to be called Belize Telecommunication Ltd., in January, Cable and Wireless employees will all be retained by BTL and at their present salaries.

Back in 1978 the government of Belize signed an agreement with Cable and Wireless for a "non-exclusive international franchise." This agreement was signed when the Belmopan earth station was opened in 1978 and was up for renewal on 31 December 1987.

However the present government decided that it did not want to renew the agreement with Cable and Wireless and instead offered this company minority shares in the new national telecommunication company—BTL.

But Cable and Wireless did not take up the offer after they were denied management control.

Cable and Wireless and the management of the Belize Telecommunication Authority are now negotiating over compensation for Cable and Wireless' assets in Belize, but neither side wants to say what are the bargaining chips.

Mr Wright told me: "We are at a sensitive stage of negotiations" and both sides have agreed not to disclose the nature of these negotiations until they have reached agreement.

The Government of Belize is backing a loan from Barclays Bank to BTL for the purchase of Cable and Wireless assets.

Cable and Wireless has a major stake in most of the telecommunication systems in the Caribbean island nations including Jamaica, Barbados and Trinidad and Tobago. It also has 100 percent holdings or majority shares in a dozen other islands of the Eastern Caribbean.

With the take-over of Cable and Wireless by BTL, the British telecommunication company British Telecom is coming into a partnership with BTL with 25 percent shares.

British Telecom which until about 3 years ago was a U.K. Government monopoly, has total worldwide assets of about U.S.$10 billion. The largest telecommunication company in the world is AT&T with total worldwide assets of U.S.$35 billion. Cable and Wireless, which is among the top 20 of the world with assets of some U.S.$1 billion.

Services Involved

55400020 Paris AFP in Spanish 0105 GMT 5 Jan 88

[Excerpts] Belize, 5 Jan—The state of Belize has purchased 51 percent of the shares of Belize Telecommunications Limited (BTL), which will manage all of the country's local and international telephone services, the Telex service, and the fax service, official sources have reported. BTL executive Nestor Vasquez announced today that in a few weeks the company will be selling 24 percent of its shares at the price of $1 per share. He also noted that the government will keep 51 percent of the shares, and the British Cable and Wireless Company will keep its remaining 25 percent.

/9604

BERMUDA

Government OK's New Telecomunications Regulations

55400018 Hamilton THE ROYAL GAZETTE in English 19 Dec 87 p 5

[Excerpt] The House approved three sets of regulations to modernise Bermuda's telecommunications operations.

Education Minister the Hon Gerald Simons introduced the regulations which assert local control over the licensing and operation of technology and companies.

MPs first debated The Public Telecommunications Service (Licence) Regulations which Mr Simons said were being instituted for public protection.

The regulations state we can apply for licences. They are also designed to monitor standards of installation and operation.

"They will enable the Ministry to obtain more control over these services," he said. "The regulations are designed to control particular services offered to the public," such as Reuters, Associated Press, even DeFontes Television.

Under the regulations, local services such as DeFontes will be able to prosecute operators who steal their signals.

Mr Simons said Bermuda had become a leader in legislating control of telecommunications.

"Bermuda is leading the small countries of the world in its legislative control of telecommunications services," he said, adding that in the last two years countries such as Gibraltar, the Turks and Caicos Islands and Barbados had asked for details on Bermuda's regulations for their own draft plans.

Mr Simons said the legislation was passed in order to protect the companies' property. He likened it to a copyright.

"When entertainment is produced overseas and a local person buys it to distribute it, he should be able to protect it," he said.

The Minister then introduced the Class Eight Radio (Personal Radio Service) Regulations which are designed to update the rules governing the use of Citizen Band (CB) radios.

Mr Simons also introduced the Class Nine Radio (Maritime Mobile Service) Regulations to extend Bermuda's control of telecommunications to large boats passing the Island and those on the Island's shipping registry.

For boats passing through Bermuda's territorial waters and communication by ship-to-shore radio, the regulations aim to ensure payment is received for the service.

Mr Simons said each licensed radio has an international call signal plus an accounting authority that local authorities can work through for payment.

One section of the regulations outlined public charges for use of the service.

/9274

GRENADA

Government, Cable & Wireless in Telecommunictions Merger

55400021 St Georges THE GRENADIAN VOICE in English 14 Nov 87 p 1

[Text] The Government of Grenada and Cable & Wireless (West Indies) Limited are to form a joint company to operate all internal and external telecommunication services in the State.

According to the government statement, the joint company will take over the assets of Grenada Telephone Company and those of Cable & Wireless located in Grenada and Carriacou. The statement did not say whether Cable & Wireless will be given controlling interest in the joint company or whether government will attempt to secure this for itself. The statement said that both companies "are already well advanced in their separate development plans to modernise the country's communications, and bringing together the expertise of their respective staff will enable coordinated, accelerating effort to be made to ensure the people of Grenada enjoy all the benefits of latest technological advances." Formal discussions between government and Cable & Wireless, to establish the structure of the new company will begin early in 1988 and it is anticipated that agreement will be reached for the new company to be launched by 1 July 1988.

"As a gesture of its commitment" the statement said "Cable & Wireless has made an advance to the Government of Grenada in anticipation of such cash adjustment as would emerge when the final structure of the new company has been determined."

Speaking in Parliament on the matter last week Friday, Prime Minister Blaize did not specifically state what the amount of money received from Cable & Wireless was, but while he appeared to give the impression that the amount was approximately $26 million. It is generally believed that the sum was substantially more.

/9604

GUYANA

New TV Service Focuses on Local Programming

55400022 Bridgetown CANA in English 1401 GMT 6 Jan 88

[Excerpt] Georgetown, 6 Jan—Guyana Television (GTV) made its debut on New Year's Day as an experimental project being undertaken by the government.

Head of the Information Services Division of the Information Ministry Terrence Holder said GTV, which made its debut with a one-hour entirely local programme, is intended to serve as an alternative to two privately-run TV channels now in operation but which merely relay signals from U.S. domestic satellites. GTV was born out of a recognised need to have local television programming in Guyana, Holder told CANA.

Until a few years ago, Guyana was the only Caribbean Community (Caricom) state without access to television.

Holder said that with 30,000 to 40,000 television sets in Guyana, and a sizeable section of the population now exposed daily to the foreign signals, it was realised that there are far-reaching implications for the cultural identity of the Guyanese people.

It was also felt that it was time that the Guyanese people begin to see themselves and as much as possible of what is happening in the Guyanese society on their television sets.

The experimental project broadcasting on channel 10 and using a 400-watt transmitter donated to the government by the Canadian Broadcasting Company (CBC) is being executed by the Visuals Production Centre (formerly the Film Centre) of the Ministry of Information with technical and other assistance from the state-run Guyana Broadcasting Corporation (GBC).

Holder said the project should be seen as the first step toward the introduction of television nationwide which has always been the desire of the government.

And, in these early days of the project, operating against a back drop of severe limitations in terms of technical, human, and financial resources, and without a professionally equipped studio, the staff will concentrate on putting together one hour of local programming each week to be broadcast starting at noon on Sundays with a rebroadcast at 18:00 hours (local time) the same day.

Over the last 2 years, the Visuals Production Centre has been producing a half-hour local programme, Homestretch Magazine, which it had arranged with the operators of the two locally-run relay channels to screen weekly but the centre found it difficult meeting the weekly deadline.

/9604

JAMAICA

Government Competing With Multinational Computer Firms

55400016 Kingston THE DAILY GLEANER in English 11 Nov 87 p 1

[Text] There is much disquiet within the computer industry. Multi-nationals who have been around for over 20 years say Government has squeezed them out of public sector business and is now competing with them in the private sector in an unfair manner.

The multi-nationals have written to Prime Minister Edward Seaga through PSOJ President, Mr Peter Thwaites, about these concerns. Mr Thwaites told the GLEANER that the Prime Minister has promised to meet with him soon.

The greatest bugbear to multi-nationals, such as NCR, ICL, Burroughs, and IBM, is a limited liability company called Fiscal Services Limited.

Fiscal Services IDP[?] Limited was formed in 1985 out of a contract to computerize the revenue services. The memorandum of association states: "The objectives of this company is to carry on the business of a computer service and to establish a comprehensive monitoring programme of all revenue activities; to improve the tax billing and collection system and to provide information for the purpose of widening the tax base and improve revenue forecasting".

Then came Fiscal Services 1986 Limited. Its objectives were to carry on the business of a computer service which means they can, "buy, sell, hire, let and deal in all kinds of computer data processing, key punch machines and services and accounting equipment and accessories. To acquire, design, operate, contract, lease and sell computer systems."

The Gleaner understands that having used Digital Equipment (DEC) for computerizing the island's revenue services, Fiscal Services is now engaged in marketing that brand of computer.

"We are not scared of competition", said a spokesman for one of the major companies. "It is healthy; we as multi-nationals compete against each other every day; all we are saying is it should be on an even keel".

It is said that DEC computers are simply shipped to Jamaica without the burden of excise duty and taxes and are marketed by Fiscal Services.

One manager said: "DEC should be made to pay their dues. We have been the pioneers in the industry, not pulling up stumps during the rough times; we have trained Jamaicans, we pay taxes, we rent office space, and enhance employment.

NCR Jamaica, for example, spent $14 million to run its operations in Jamaica last year. Of that figure, roughly $1/2 million was spent directly in training Jamaicans.

The other companies together spend millions of dollars in providing field engineers, marketing personnel, rentals and transportation to run effective operations here and to support Government programmes such as HEART.

"What," asked one manager, "has DEC done to deserve this easy ride?"

Mr Canute Miller, chairman and chief shareholder of Fiscal Services Limited, was said to be off the island since last week and neither of his deputies who are also on the boards of both companies responded to the Gleaner's telephone calls.

Government agencies, departments and quasi-Government departments account for about 40

of the available business. "In the coming years all major suppliers will find themselves locked out of 40

of the possible market, so we will be competing for a smaller slice of the cake", observed one manager.

/9274

PERU

5 Radio Stations Closed in Tarapoto, Moyobamba

55002002 Lima EL COMERCIO in Spanish
4 Dec 87 p A 5

[Excerpts] AP [Popular Action] Deputy Blanca Rocha de Janz yesterday questioned Minister of Transportation and Communications German Parra on the reasons for closing a radio station in San Martin. "It is not just one station, but five," she pointed out.

"This is a violation of human rights and an attempt against freedom of information," Blanca Rocha added, who said she had just returned from a trip to San Martin Department.

According to her, the stations closed are: Radio Tropical, Radio Tarapoto and Radio Dos mil in Tarapoto Province; and Radio Moyobamba and Radio Station C in Moyobamba.

The situation in San Martin, she added, is reminiscent of the military dictatorship "when it tried to silence the news media."

Blanca Rocha charged that "the Ministry of Transportation and Communications has made this decision because it says that such stations are having technical problems, but what is happening is that these stations are not connected with the Peruvian Aprista Party."

She added that she was surprised that a ministry committee evaluated the operation of the stations and agreed to their closing.

"I was surprised because despite the fact that this ministry is on strike, its workers were mobilized in record time," she said.

The deputy called on the ministers of transportation and defense to put an end to this situation and report the true reasons for the closing.

/06091

TRINIDAD AND TOBAGO

Government Studies, Weighs Changes to Broadcast Code

55400012a Port-of-Spain TRINIDAD GUARDIAN in English 7 Nov 87 pp 1, 14

[Text] NAR deputy political leader, Karl Hudson-Phillips, who served as Minister Without Portfolio during the five weeks Prime Minister A.N.R. Robinson was abroad, has been assigned by Cabinet to make amendments to a draft broadcasting code and laws for telecommunications activities originally drawn up by a Government-appointed task force.

Quoting "usually reliable sources," the Caribbean News Agency (Cana) said the task force report,having already been before Cabinet, had been sent back for further amendments to Hudson-Phillips, a lawyer in private practice.

According to Cana's sources, the report is soon to be returned to the task force to incorporate some of Hudson-Phillip's suggested changes. A bill is then likely to be put up for public comment after further Cabinet discussion.

The bill is intended to set up an authority with jurisdiction over broadcasting and telecommunications-related activities in Trinidad and Tobago.

The authority will have the power to issue policies covering telecommunications services including telephone, telex, data, radio and television, maritime, aeronautical, radio-navigational and land mobile services—defined as concessisonaires who would apply for licensing and concessions from the authority.

Copyright Works

The code, which forms schedule one in the 52-page report, makes a few comments about news broadcasting

The report states a concessionaire would not be allowed to broadcast a matter which incites violence or is otherwise injurious to national security or which is blasphemous, indecent or infringes any copyright works.

"A concessionaire shall ensure that news is reported factually and that opinions are expressed without bias-...shall ensure that where a person's integrity is questioned in a broadcast reasonable opportunity is given him to broadcast a reply," the report continued.

In terms of programming, the report stipulates that at least 20 percent of broadcasting time should be works by Trinidad and Tobago nationals.

"A concessionaire should seek to provide a balanced service of information, enlightenment and entertainment for people of different ages, interests and tastes," the report states.

Different Views

The programming provided by a concessionaire should be, as far as is practicable, varied and comprehensive but specialised programming and should provide a reasonable balanced opportunity for the expressions of different views on all matters.

"Programming should contribute to national development and provide for continued expressions of various interests of Trinidad and Tobago," says the report which also recommends local personnel be used as far as possible in production and presentation of broadcasts.

The task force further recommends firm policy on apportioning of time to political parties.

Its report calls for a published policy on the use of dramatisation, ads and announcements of a political character. Under the force's recommendations, the tradition of no political broadcasting on election days would be continued.

All food and drug advertising, the force's code suggests, must have approval of the chief medical officer (CMO) who will not approve such items deemed dangerous to health.

The code allows the CMO to consult with the country's medical association on such decisions.

Generally, advertising is not allowed to be discriminated against "without reasonable cause" by a broadcasting service.

The newly established authority would, however, under the recommendations, have power to censure ads it believes to be of an" objectionable nature in content."

The authority also would be granted power to pull an advertisement which uses "objectionable techniques of presentation."

National Interest

The only ministerial power written into the broadcasting code section allows use of broadcast space for items of "national interest."

The minister, defined as the member of Cabinet responsible for telecommunications, currently Works Minister John Humphrey, would request such broadcast space no longer than 30 minutes in any 24 hours.

Part of the general act preceeding the broadcasting code allows the existing Cable and Wireless (West Indies) Ltd ordinance to remain as the general guidelines, merging the adaptations contained in the new act.

12223

Government OK's Leasing of Two Television Channels

55400012b Port-of-Spain TRINIDAD GUARDIAN in English 26 Nov 87 p 3

[Text] Agreement has been reached to lease Trinidad and Tobago Television's Channels 9 and 14, and the way is now clear to invite tenders for lease of the station.

Parliamentary Secretary in the Ministry of Industry, Enterprise and Tourism, Gloria Henry, who announced this on Wednesday, said that the agreement in question will ensure a higher percentage of local programming in the immediate future.

She was at the time delivering the opening address at a seminar on television held on Tuesday at Holiday Inn by the Association of Professional Engineers of Trinidad and Tobago (APETT).

Potential

Mrs Henry said that the question of TTT's leasing Channels 9 and 14 had been discussed with the Teleproduction Association of Trinidad and Tobago (TATT), an association of nine local teleproduction houses:

"These discussions between TTT and TATT have been long and perilous at times, but an agreed position has now been reached. The way is now clear to invite tenders for the lease of 9 and 14 and I would personally urge TTT's Board to expedite this matter which has been a source of concern for me, although I appreciate the need for dialogue with local producers."

Discussions between TTT and TATT regarding the concept of a children's television studio "have been going well" she said and positive announcements on the situation could be obtained by June.

Mrs Henry also suggested the country explore the export potential of its local television productions, particularly in view of the need to increase foreign exchange earnings.

Commenting on state-owned TTT, she said that the station is now at a crucial stage in its history.

/12223

Telephone Company Opened Up to Foreign Investment

Government Decision

55400011a Port-of-Spain DAILY EXPRESS in English 6 Nov 87 p 1

[Article by Andy Johnson: "Telco for Sale"]

[Text] Government has agreed to allow foreign investors to take equity in the Trinidad and Tobago Telephone Company as part of a package of proposals aimed at keeping the company afloat.

It has also converted more than $400 million in state loans into equity in the company and increased Telco's authorised share capital to $1 billion, as part of the plan.

These are among a list of recommendations submitted by the Frank Rampersad Committee and adopted by Cabinet. The recommendations have been based on Telco's own "Plan for Restructuring" submitted three months ago.

Speaking with the Express about the telephone company this week, one senior official in the Ministry of Industry and Enterprise said Telco was in a worse financial shape than most people assumed.

He said Telco had applied for $194 million in government support to meet its foreign loan commitments in 1988, compared with a request for $125 million by the Iron and Steel Company of Trinidad and Tobago. Telco's total external financial commitments for next year amount to $335 million, including principal and interest payments, and according to its "Plan for Reconstruction" the company hopes to raise $141 million out of its projected revenues.

"The company is finding it increasingly difficult to meet its financial commitments," the official said, wondering how is it that Telco could have spent more than $1.5 billion on a development programme over the last years "and they are not finished yet."

According to figures produced in June this year, Telco has a foreign loan commitment of more than $726 million, with $237 million owed to a consortium of local banks. This does not include interest payments, now between $60 million and $70 million and a banking overdraft in the region of $180 million.

There was a further $415 million in government loans which has been converted into equity since the government's adoption of the Rampersad proposals in August this year.

Those proposals called on Government to allow the company to consider approaches from interested foreign investors for the purchase of equity in the company. And under the terms of its proposed "financial restructuring"

the company is seeking $600 million in new share capital, one-third of which it expects to come from Government. But this portion is not likely to materialise, according to the government official. Also in accordance with the Rampersad recommendations, the company has been advised to "exercise restraint" in its development programme. It had been seeking a further US$40 million for the next phase.

Among recommendations adopted by Cabinet:

- approach the World Bank to determine whether retroactive co-financing status is available for all foreign loans. (This will eliminate the priority ranking in the repayment schedules among the several foreign loans). And then move for the rescheduling of these loans.
- approach the export credit agencies involved for their views and to marshall the support of lenders in extending the repayment schedules.
- advise domestic and external bankers of the desire to reschedule payments.
- commission a study into the price elasticities of demand for different segments of the market in order to formulate proposals for tariff structure and rate changes.

All these activities are to be co-ordinated and monitored by the Ministry of Finance. Asked about these developments, managing director Audley Walker said Telco was "trying to put together a plan of action" in accordance with the recommendations.

Union Reaction

55400011b Port-of-Spain DAILY EXPRESS in English 6 Nov 87 p 1

[Article by Neil Parsanlal: "Union Conducts Enquiry Into Telco"]

[Text] After several calls for the Government to hold a public enquiry into the finances of the Trinidad and Tobago Telephone Company (Telco), the Communication Workers Union (CWU) has launched its own investigation.

The CWU has promised to release the findings of documents which it says relate to questionable transactions by the company.

This is the union's response to a statement last Saturday by Telco's Executive Director, Clarence Hordatt, that workers face the choice of a reduction in wages or retrenchment.

Hordatt said Telco was faced with a wage bill that was 65 percent of its total recurrent expenditure, and that management is working on a programme to save the debt-ridden company approximately $8 million a year for 1989 and 1990.

In an interview yesterday, CWU's education officer, Carl Regis, said there were "so many areas of flagrant waste in Telco that management should look inwards first before considering reducing the size of its staff or wage bill."

Referring to a Public Utilities Commission report, entitled "The Road to Financial Viability," which described Telco's management as top-heavy, Regis said the present ratio of management to senior staff is two to three, and to junior staff it is about one to eight. He said the executives' salaries account for about 25 percent of the wage bill.

Top-heavy Management

Arthur Ramjattan, the union's research officer, said that in recent years Telco has fallen deeper and deeper into debt because of its "misdirected spending and wastage of public funds."

The union cites a $1.5 million 1986 budget which is separate and apart from the total company's budget. It claims this $1.5 million included $220,000 for foreign travel, $90,000 for advertising and company relations, $300,000 for services from foreign consultants and $725,000 for services from local consultants.

Ramjattan also questioned the need to spend approximately $4.5 million a year to rent offices, when some of its property lie half-empty. According to estimates by the union, the company spends about $385,000 a month in rent.

"This," said Regis, "has to be compared with the fact that a whole floor in the Nelson Exchange building in Port-of-Spain is empty. These are the areas that should be checked before people's salaries are touched."

On the subject of equipment purchases, both Regis and Ramjattan were critical of Telco's operations.

According to Regis, the Telephone Company purchased 12 digital multiplex switching (DMS) systems at a cost of $25 million each. Each DMS can accommodate 100,000 lines, giving a total of 1.2 million lines, which the union suggests is excessive for the population of Trinidad and Tobago.

Equipment Purchases

The company also purchased 16 remote switching centres (RSC) costing between $7 and $8 million each, which has a potential for accommodating 10,000 lines. This is in addition to the ND 20 systems that are operating now throughout the country.

Through it's development programme, the company hopes to supply a mere 277,000 lines to consumers by 1996, the union said.

President Dennis Olivier, renewing the union's call to Government to open a public enquiry into the operations of Telco, has vowed that the CWU will not sit idly by and see workers' salaries cut or staff retrenched.

/12223

Telecommunications Licensing Plans Discussed

55400017 Port-of-Spain TRINIDAD GUARDIAN in English 9 Dec 87 p 3

[Article by Gail Alexander]

[Text] Plans are in the works to regularise Citizen's Band radios, cordless telephones and satellite dishes and license them, according to Winston Ragbir of the Telecommunications Division of the former Ministry of Works, Settlements and Infrastructure.

Addressing a seminar held by the Public Relations Resource Group of that Ministry, Mr Ragbir also spoke about the proposed Telecommunications Authority, a draft report on which was submitted to Cabinet in September. The authority is expected to get underway by mid-1988.

About future plans, he said:

"New legislation is being passed which is long overdue and a lot of problems that we are experiencing now in terms of interference, and a lot of things that are not being licensed in the country—CBs, cordless telephones, dishes and so on. These things are going to be regulated and licensed."

On the financial side, he said that the Telecommunications Division does not now collect revenue—this is done by Customs and Excise.

"Now if we pass new legislation," Mr Ragbir added, "this is going to be revised and these thousands of unlicensed users are going to be brought under control, paying licence fees. Rough estimates have been worked out and this indicates that the operating cost of the Telecommunications Authority can be met from these fees."

Improved Service

Again in the line of communications, Telco Chief Executive Clarence Hordatt who also spoke at the seminar, said that Telco's present planning situation prevents it from guaranteeing increased or improved service to parts of Eastern Trinidad.

"We are going to budget for it," he said, "but it might only be paying 'mas.' We would be prepared if we are permitted, but at present we are not certain that we may be permitted to proceed with Toco, Sangre Grande and the whole area that Sangre Grande would serve (from Valencia to Salybia, Rio Claro, Mayaro). I may be smiling as I say this, but it hurts."

He went on: "Servicing these areas would have completed our entire programme, but the company's whole structure now is not even clear. We are in the process of restructuring."

Regarding its productivity rate, Mr Hordatt said that Telco has moved from 40,000 lines to 140,000 lines in four years.

By the end of 1986, Telco's operating expenses had risen to $235 million, but were surpassed by the 1985 revenue for the first time in years, he pointed out. Still, he stressed, Telco's revenue is "not quite enough to service its needs."

Where the nation's power supply was concerned, T&TEC deputy general manager John Woon Sam warned that a shortage of natural gas would have a negative effect on the supply of electricity, whose main source is natural gas.

While he urged conservation of the power supply, he said with the current the growth of demand, T&TEC would not need to install a new generation plant until mid-1990: [sentence as published]

"So that machine-wise, service-wise and technology-wise we can supply the needs of the country," he added.

/9274

ALGERIA

New Dialing System Discussed

55004600 Paris LE MONDE in French 30 Oct 87 p 6

[Article by Frederic Fritscher: "A New Telephone Dialing System"] txt

[Text] On 1 November at 0 hour, Algeria will change its telephone dialing system. The current 6-digit system dates back to 1957. Its theoretical capacity is approximately 800,000 numbers. According to officials of the PTT [Post and Telecommunications] Ministry, it has almost reached saturation point. For lack of available numbers in setting up the new system, the territory was divided into eight areas, each one accommodating several wilayas (departments) and identified by a one-digit code going from 2 to 9. The new system will therefore make it possible to increase the theoretical capacity of the present pool of telephone numbers to 6.4 million numbers.

As in the past, within a same area, subscribers will dial the 6-digit number to reach their party. From one area to another, it becomes necessary to dial zero, the access code to the interarea, followed by the call number (such as 2 for Algiers), then the 6-digit telephone number of the requested party. While the procedure does not change to call abroad, on the other hand, in order to call Algeria from abroad, it is imperative to dial the area code for Algeria (213) preceding the party's 6-digit number. (Between the area code for Algeria (213) and the party's 6-digit number, from France, it is necessary to dial 2 for Algiers, Boumerdes, and Tipaza; 3 for Blida, Chlef, Tizou Ouzou, Ain Defla, Bouira, Medea and Djlfa; 4 for Constantine, Mila, Oum el Bonaghi, Khenchela, Batna, Biskra and El Oued; 5 for Bejaia, Setif, Jijel, Bordj Bou Arreridj, and M'Sila; 6 for Oran, Mostaganem, Relizane, and Mascara; 7 for Ain Temouchent, Sidi Bel Abbes, Tlemcen, Saida, Naama, el Bayath, Bechar, Tindouf, Adrar, Tiaret, Tissensilt; 8 for Annaba, Skikda, El Tarf, Guelma, Souk Ahras, and Tebessa; and 9 for Laghouat, Ghardaia, Ouargla, Illizi and Tamanrasset.) The increased number of available telephone numbers does not mean, however, that the some 400,000 requests on the waiting list will be satisfied ipso facto. There is a terrible shortage of equipment. Everything, or almost everything, is manufactured in Algeria. The National Telecommunications Enterprise (ENTC) manufactures the telephone exchanges and stations in its Tlemcen plant. Another national company manufactures the cables in its facilities in Oued Smar, near Algiers. The radio equipment is the only one imported. However, ENTC, which has an output capacity of 65,000 lines per year, only supplies 20,000. The gap between the demands submitted and the means to satisfy them is widening, the more so as the PTT is dependent upon other service agencies. Thus, last year, the administration was to take delivery of 103 buildings to house telephone exchanges. Only two were delivered. The average waiting time for a telephone line is currently 7 years in Algeria where there are only 2.7 telephones per 100 inhabitants, whereas, according to international standards and the GNP level, there should be at least 8.

6857

BANGLADESH

Broadcasting Union Membership

55500035 Dhaka THE NEW NATION in English 21 Oct 87 p 3

[Text] Bangladesh has been unanimously elected member of the administrative council of the Asia-Pacific Broadcasting Union (ABU) in its 24th general assembly meeting which ended in Bangkok Monday, reports BSS.

The National Broadcasting Authority (NBA) which will serve on the council for a three-year term was highly praised for its contribution to the field of broadcasting.

The administrative council, the highest body to determine policies and oversees the activities of various committees of ABU comprises its councillors.

Speaking in the ABU general assembly the leader of the Bangladesh delegation and Chairman of NBA Mr Saiful Bari, expressed the hope that Bangladesh would try to prove worthy of the honour given to it and the responsibility reposed on it by the members.

He said NBA would play its role in a determined way to promote the cause of broadcasting specially in the Asia-Pacific.

/9738

INDIA

Indian Telephones in Joint Venture With U.S. Firm

55500052 Calcutta THE TELEGRAPH in English 6 Nov 87 p 11

[Text] Calcutta, Nov. 5—Indian Telephone Industries Limited (ITI) has entered into a joint venture agreement with a US firm, Equatorial Pacific Industries Company (EPIC), for setting up satellite ground stations, also known as micro earth stations, to be used for data communications. ITI and EPIC have floated a new company for this purpose with an equity capital of Rs 7 crores.

In the first phase the joint venture would supply 125 micro stations to the Department of Electronics (DoE). They would be stationed all over the country. The idea was to connect the district headquarters with the mainframe computer in Delhi through the micro stations. The objective of this link was to provide vital information on each ministry's performance at the district levels across the nation.

Sources also said that ITI was engaged in updating the country's telecommunication network. It has started manufacturing mobile telephones on an experimental basis and has supplied 250 such phones to the telephone authorities in Delhi. These phones, having a radius of about 100 km, have been given to several VIPs.

However, ITI's plan to go in for the fibre optics technology has not succeeded so far as the Department of Telecommunications (DoT) was yet to clear the project.

In the meantime, ITI was going ahead with its plans to introduce large scale satellite communication links within the country. Sources said that although it is cheaper to have microwave links the satellite communication system provides a much better and disturbance free link.

/06091

Radio Beijing Jamming All India Transmissions

55500045 New Delhi PATRIOT in English
19 Oct 87 p 1

[Article by Vineet Dikshit]

[Text] China's high-powered transmitters have been found to interfere with an even block sensitive Indian transmissions and All India Radio programmes.

For the past many years AIR Kohima and AIR Kurseong have suffered acute interference from Radio Beijing. However, recently a major instance of sensitive jamming has surfaced whereby signals from the Indian Time and Frequency Station have been blocked by the Chinese time station.

With its call-sign ATA-New Delhi—the station situated in the Capital, transmits accurate pulses of Indian Standard Time (IST) 24 hours of the day. It is an 8kw low power transmitter. For quite some time it is consistently being jammed by a 25kw Chinese time station with a call sign BPM. This station is located at a place known as Lintong in Xian province of China (34 degrees 21 minutes N, 109 degrees 11 minutes E).

The Indian time signal station is vital in national interests as its services are put to use almost everyday by country's defence in calibrating accurate Indian Standard Time for logistical purposes. Apart from the armed forces, a score of research institutes engaged in atmospheric studies. All India Radio, all the navigational agencies, including the air traffic control and central wireless monitoring organisations, are beneficiaries of this service.

The ATA's time is disseminated via short wave electromagnetic medium. Three frequencies used are 5,000, 10,000 and 15,000 kHz. All of them are jammed by BPM China. The worst sufferer among them is the channel on 10,000 kHz, which is shared by both ATA and BPM.

Counter-steps: The National Physical Laboratory, New Delhi, is the custodian of the Indian Standard Time and its scientists are manning the ATA. The site of this station is opposite Savitri theatre in Greater Kailash II in South Delhi on a small farm land.

In order to overcome jamming of ATA, the Indian government has sanctioned funds for installation of 30 KW Marconi transmitters. The higher power ATA is expected to be in operation in six months from now.

Interference in IST radio station is not an isolated case of jamming by Chinese transmitters. Last week Prime Minister Rajiv Gandhi, during his visit, was given a petition by affected citizens of Nagaland that some of the broadcasts from Kohima and Kurseong stations of All India Radio were consistently being overrun by a powerful battery of Chinese radio stations.

/9738

Ministers Inaugurate India, Pakistan STD

55500044b Bombay THE TIMES OF INDIA in English
6 Oct 87 p 16

[Text] Islamabad, October 5(PTI): Direct dialing between India and Pakistan was formally inaugurated today with ministers of state for communications of the two countries exchanging pleasantries over the telephone.

To begin with, 29 circuits have been provided, implying an equal number of calls at any given time between the two countries.

A subscriber from the Pakistani side will have to pay Rs47 per minute for s direct dialing call to India.

The system had become operative on September 1 and the traffic was picking up satisfactorily, Pakistani officials said.

Pakistan is now connected with 48 countries on the international subscriber dialing service.

/9738

Nations in Region Plan Television Cooperation

55500042 New Delhi PATRIOT in English
24 Sep 87 p 5

[Text] In yet another step to bring the SAARC countries together, each of the seven-member nations will start televising and broadcasting common programmes twice a month from 2 November, to show the cultural heritage and developments in social, economic, scientific and technological fields, reports PTI.

This was decided unanimously at the two-day first-ever meeting of the SAARC Audio-Vision Exchange Committee, commonly known as the SAVE Committee, which ended in the Capital on Tuesday.

The meeting was attended by official representatives in the field of information and broadcasting from all SAARC countries—Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

Briefing newsmen, Information and Broadcasting Ministry joint secretary R.C. Sinha, who attended the meeting on behalf of India, said, under the agreement each SAARC country would telecast on the first of every month, a programme for 20 to 25 minutes during the prime time.

Similarly, on the 15th of every month, each SAARC country would broadcast a common programme for fifteen minutes again during the prime time.

But, on 2 November, both the television and radio programmes would start simultaneously to coincide with the opening of the third SAARC summit in Kathmandu.

Each country, he said, would telecast and broadcast the programmes on its national hook-up and relay these on the regional stations.

Further, each programme would be in English, and if not, would be subtitled, dubbed or voiced in English, he said.

The programmes, Mr Sinha said, would be shown in the alphabetical order beginning with Bangladesh and ending with Sri Lanka.

Under the agreement,he said, there would be seven radio programmes, one from each SAARC country, and six television programmes as Bhutan does not have television.

He said a meeting of the SAVE Committee would be held on 2 and 3 February, 1988 in New Delhi to decide about the next seven months exchange programme.

Under the agreement, television programmes to be pooled for exchange are 'Uphar' by Bangladesh, 'Call of the Wild' by India, 'Profile of the Country' by Maldives, 'Nepal: A Profile' by Nepal, 'Wedding Songs' by Pakistan and 'Dances of Sri Lanka' by Sri Lanka.

The Bangladesh programme would be presented by the well-known singer, Runa Laila. The radio programmes agreed upon are: 'Music from Bangladesh' by Bangladesh, 'An Introduction to the Himalayan Kingdom' by Bhutan, 'Folk Music of Rajasthan' by India, 'March to Progress' by Maldives, 'Mountain Men: Sherpas' by Nepal, and 'Traditional Music of Sri Lanka' by Sri Lanka.

Mr Sinha said the radio programme from Pakistan could not be decided. As Pakistan's turn comes in April 1988,l it would give the name of the programme at the next SAVE Committee meeting in February.

Mr Sinha said the timings for the television programmes in each country would be: Bangladesh (7.30 p.m.), India (9.15 p.m.), Maldives (6.20 p.m.), Nepal (7.40 p.m.), Pakistan (10 p.m.) and Sri Lanka (7.30 p.m.).

Similarly, the timings for the radio programmes would be Bangladesh (5.55 p.m.), Bhutan (1.30 p.m. on Sunday and 6.30 p.m. on week-day), India (9.30 p.m.), Maldives (8.30 p.m.), Nepal (7.30 a.m.), Pakistan (7.15 a.m.) and Sri Lanka (9.30 p.m.).

Mr Sinha said, the SAVE Committee also agreed that for telecasting and broadcasting the SAARC programmes, the host country would provide up-link facility free of cost while the down-link facility would be borne by the receiving country.

For other events, the up-link facility would be provided by the host country free of cost and the down-link facility would be borne by the receiving country if at least five SAARC countries were involved, he added.

But, if any programme was to be exchanged between two SAARC countries, the cost for the up-link and down-link facilities would have to be paid by the receiving country. This was necessary because as per the definition, a minimum of five countries should join together to be entitled for SAARC facilities, Mr Sinha said.

Mr Sinha said the committee also agreed that a SAARC signature tune should be prepared for the SAARC television and radio programmes.

It was decided that each member country would prepare a signature tune, and out of it one would be selected at the next meeting of the SAVE Committee. A similar decision was taken for preparing a SAARC logo, he said.

Replying to questions, Mr Sinha said the timings for the programmes were decided by the SAARC summit in Bangalore in 1986. The Kathmandu summit would discuss it again and, if necessary, extend the timings.

The committee, he said, also took up the question of having joint production for SAARC programmes. It was decided to explore the possibilities of having a SAARC quiz programme, modalities of which would be discussed at the next meeting, he added.

/9738

Cooperation With Netherlands

55500044d Madras THE HINDU in English 21 Sep 87 p 9

[Text] A Memorandum of Understanding has been signed here between India and the Netherlands in the field of telecommunications.

The Union Communications Minister, Mr. Arjun Singh, who signed on behalf of India on Saturday expressed his firm belief that the memorandum would further strengthen the cooperation between the Telecommunications Department of India and the Netherlands. He said the Prime Minister, Mr. Rajiv Gandhi, had identified telecommunications as one of the five basic thrust areas of development.

Mrs. Neelie Smit Kroes, Minister of Transport and Public works of the Government of Netherlands who signed it said that there were several projects of interaction between India and the Netherlands.

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Joint Venture Launches 'Versatile' PABX System

55500044c Madras THE HINDU in English 30 Sep 87 p 19

[Text] Cosmo Communications Limited, a joint venture with Andhra Pradesh electronics Development Corporation, has launched a versatile 128 line PABX system modeled after the C-Dot technology.

The company's R&D wing had recently designed and developed two more systems of smaller capacity. The three systems are CDSS 128, CDSS 832 and CDSS 308.

The CDSS308 is the smallest system that caters for a viable communication system for internal (as an intercom) and external (as a telephone) use. This small system boasts of all the features incorporated in the larger electronic PABX systems. It provides for as many as eight extensions to have access to external exchange and for an incoming call to be transferred to any other extension. CDSS 832 is a computerised system with 32 extensions with eight P&T lines.—Hyderabad Staff Reporter

/9738

Delhi-Calcutta Link Progress Report

55500044a Calcutta THE STATESMAN in English 12 Oct 87 p 11

[Text] Ranchi, Oct 11—Work on the Rs200-crore Fibre Optic Cable System between Delhi and Calcutta is going on in full swing, according to the general manager, Telecommunication (Project), Calcutta, Mr. G. Pandarinathan, reports PTI.

Mr. Pandarinathan said here today that the scheme when completed would provide an additional stable telecommunication route between Delhi-Varanasi-Patna-Nawadah-Jhumaritilaia-Hazaribagi-Giridih-Dumka-Godda-Calcutta by the end of the Seventh Plan.

Informing that Delhi and Varanasi had already been brought on this route, he said work was on to provide the same between Varanasi and Patna by March 1989. About Rs100 crores are expected to be spent on the execution of the first phase of the project, Mr. Pandarinathan said.

Dhanbad, Bokaro and Ranchi would be brought under microwave system within the next three months for which the work is almost in the final stage. The work involves an estimated expenditure of Rs5 crores.

A wide-band microwave system between Ranchi and Dhanbad is also expected by June next, which would provide a suitable telecommunication route linking Bihar's summer capital and the steel city of Jamshedpur, he added.

With a view to providing better telecommunication network in remote tribal areas of Bihar, a Rs3-crore microwave system was under execution which would bring Ranchi, Lohardagga, Gumla, Chaibasa and Jamshedpur on the map of the telecommunication system.

He said efforts were on to put Dumka and Giridih on the microwave link by March next year.

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Cooperation From Italy in Push-Button Phone Manufacture

55500043 Madras THE HINDU in English 5 Oct 87 p 4

[Text] The Indian Telephone Industries (ITI) will take up commercial production of electronic push-button telephones next year with Italian collaboration.

The ITI Managing Director, Mr. D.V. Gupta, told press person here today that a collaboration agreement had been entered with Face Standard of italy for manufacturing the state-of-the-art domino-model electronic push-button telephones at the Bangalore complex. The agreement was signed on August 22.

ITI had the licence to produce 10 lakh such telephone instruments and five lakh critical parts. The production of push-button telephones would be taken up at the Naini and Srinagar complexes later. The ITI had envisaged the production of FACE version of rotary telephones. But, a decision was taken to produce the push-button instruments.

Capsule manufacture: The new agreement had also given ITI access to the latest technology in capsule manufacture possessed by Alcatel Group of Denmark, an associate company of Face Standard. The design of such capsule was a breakthrough and India was the first country in Asia to obtain the technology.

Mr. Gupta said the ITI's research and development organization too had come out with push-button instrument and had been cleared for commercial production. It would be taken up for large-scale manufacture later.

He said that under the Central Technology Transfer Scheme, the Centre had cleared three technologies including that of Face Standard's push-button telephones. The production of rotary telephones would continue as ITI had orders till 1989.

Defence project: The ITI would execute a communication project for the defence forces in the Western Sector on a turnkey basis.

During the year ended March 31, 1987, the ITI had registered 48 percent growth with its output going up from Rs305 crores to Rs452 crores.

A significant aspect of production in 1986-87 was the increase in the production of electronic switching equipment and small electronic exchanges from 60,000 lines in 1985-86 to 1.75 lakh lines. The company produced 7.52 lakh telephone instruments and 2.56 lakh lines of electro-mechanical switching equipment against 7.11 lakh and 2.45 lakh lines respectively in the previous year. The value of transmission equipment produced went up from Rs70 crores to Rs96 crores.

Mr. Gupta and the Executive Director, Mr. M. S. Jayasimha, denied that the ITI was charging more for its products. ITI was facing competition for its various communication lines. ITI had 10 collaboration arrangements and spent Rs16 crores on R&D last year.

The model plant set up at the KEONICS city near here, with the Centre for Development of Telematics technology to manufacture digital switching systems would reach the target of one lakh lines per annum by 1989 against the current production of 20,000 lines.

R&D effort: On the Research and Development front, the ITI was working in fields like digitalisation, optical communication, use of large-scale integrated circuits, hybridisation and computerisation. It had transferred technology for the manufacture of 30-channel pulse code modulation equipment to the State electronics Corporations of Karnataka, Gujarat and Punjab and the electronics Corporation of India.

As its contribution to the prestigious Reliance cup, ITI has supplied two mobile satellite uplink terminals to Doordarshan for telecast of matches.

The Rs1.48-crore terminals were developed indigenously.

/9738

Minister Announces TV Transmitters for Remote Areas

Delhi Domestic Service in English 0830 GMT 6 Jan 88 BK]

[Excerpt]—The information and broadcasting minister, Mr Ajit Kumar Panja, has said that 12 ultrahigh frequency TV transmitters are to be established during the current plan for the benefit of the people in remote areas. Talking to newsmen in Tiruchirapalli this morning, he said the public sector Bharat Electronics Limited will deliver the first set of transmitters by the end of this month. The minister also said nine unmanned remote control TV transmitters are to be set up soon. The first such transmitter has already been commissioned in Rajasthan. Out of the 448 districts in the country, 320 districts will have radio stations by the end of the seventh plan. Mr Panja said the center is examining a set of new guidelines about the working of radio and TV. He was referring to the complaints of non-Congress-I governments in Kerala, West Bengal, and Tamil Nadu regarding radio and TV coverage.

Space Organization Chief on IRS 1-A Satellite

BK170617 Delhi Doordarshan Television Network in English 1600 GMT 16 Jan 88

[Text] The remote sensing satellite, IRS 1-A, is scheduled to be launched from the Baikanour cosmodrome in the Soviet Union some time in March. The chairman of the Indian Space Research Organization, ISRO, Dr U.R. Rao, speaks about the achievements of previous Indian satellites. He also gave details about IRS 1-A:

[Begin recording] Together with the data which are regularly being received from Landsat series of satellites and of [word indistinct] satellites, these data have been utilized, while essentially providing vital inputs into various operational services in the country, such as the inventorying and monitoring of forestry, looking at our agricultural program, looking at mineral resources in the country, [word indistinct] wasteland, underground water targeting. I am now coming up with an integrated plan at district level to monitor and tackle drought on a short as well as a long-term basis. Thus, remote sensing has become a vital part of Indian development. The first of IRS series is IRS 1-A, which has been fully integrated in (?Delsat) and is to be airlifted by the third week of January to the cosmodrome at Baikanour in USSR for launching. It will go through a 45-day preparation at the launch pad and is expected to be launched by the end of March of this year.

The IRS 1-A spacecraft weighs approximately 950 kgs and has two sets of cameras. One set of cameras providing imagery with a resolution of 72 meters and the

second set providing with a resolution of 36 meters, which is almost the same as the present Landsat series. Each has a (?square width), that is in each part it covers 140 kilometers width, and it will be launched into a sun-synchronous polar orbit at a height of 904 kilometers. [end recording]

Conference on Third World Communications Held in Delhi

55500049 New Delhi PATRIOT in English 2 Nov 87 p 10

[Text] The first-ever international conference on Computer Communications for Developing Countries (CCDC'87) has advocated regional cooperation of computer communication technologists as this could prove most effective in solving host of similar problems that they face.

The conference which concluded on Friday suggested increased regional and inter-regional cooperation among developing countries to enable them to evolve and share solutions and give a major fillip to technology transfer among these countries.

This was disclosed by the CCDC'87 Organising Committee Chairman Dr P.P. Gupta while talking to newsmen about the success of the conference in which over 430 delegates from 39 countries participated.

The conference resolved that such a meeting dedicated to the exchange of information relating to computer communications should be held every two years in different developing countries.

The CCDC'87 advocated that standardisation should be encouraged world-wide as this would have far reaching and long term benefits for both the developed and the developing countries. In view of the host of technologies available it suggested innovation so that appropriate combination of technologies can be identified and implemented.

A major problem has been to decide where to "intercept" technology. If world standards in hardware could be encouraged, updation of computer communications installations would become easier, resulting in considerable savings world wide. This would help in the introduction of computers in a wide variety of applications to help improve productivity and quality of life of the people, the conference felt.

There is widespread recognition that computer communication has a very major and relevant role to play in developing countries, particularly for applications such as education, health, disaster warning, and computer messaging. The conference, therefore, offers these recommendations to the Governments of developing countries and to international organisations for their consideration.

It was felt that a good part of the technology used in developed countries can be adopted, absorbed, adapted to local conditions and requirements and further developed. This work can be carried out in a cooperative manner with the help of available specialists.

Particular emphasis should be placed on the adaptation aspect. Both know-why and know-how should be acquired by developing countries, the conference stated.

Apart from adaptation, there should be innovation. Developing countries, and their supporters, should investigate and evolve new systems specifically relevant to their needs. In particular, data communication by wireless and satellite links should be considered, along with computer message systems.

Greater international cooperation, including regional cooperation, is required in this area. Electronic mail link-ups, including link-ups between neighbouring countries should be speedily set up. Educational institutions working in the area of computers could play a leading role, setting up non-commercial links. These will have a valuable demonstration effect and create significant and meaningful demands for public data services from a variety of sectors, the conference felt.

/06091

Remote Sensing Center Opens at Dehradun

55500051 New Delhi PATRIOT in English 5 Nov 87 p 5

[Text] A Regional Remote-Sensing Service Centre, one of the many being set up in the country, was inaugurated at Dehradun by Minister of State for Science and Technology K.R. Narayanan on Wednesday.

Such centres will be useful in solving problems relating to national development and those of urgent nature like drought-management.

The centres will enable digital interactive analysis of the remotely-sensed data, a major element of the National Natural Resources Management System.

The National Natural Resources Management System (NNRMS), which combines optimally the data acquired through remote sensing satellite along with the data from conventional systems, will provide an efficient, speedy and cost effective tool for the management of natural resources in the country, an official release said.

A major element of the NNRMS is the establishment and operationalisation of an Interactive Computer system to enable digital analysis of remotely sensed data by about 300 user organisations distributed all over the country.

The Regional Centres are being set up by the Government to meet these requirements, while those at Bangalore and Dehradun are now operational for utilisation by the users. Three more such centres are scheduled to be commissioned before March 1988 at Nagpur, Jodhpur and Kharagpur.

Data received from remote sensing satellites such as NOAA, LANDSAT, SPOT and the Indian Remote Sensing Satellite (IRS-lA), due for launch in early 1988, will be analysed in the regional centres for extracting resource information required for forestry, crop management, mineral targeting, water resources management and cartography.

An application validation programme was also launched today at Dehradun by the Secretary, Department of Space, Prof U.R. Rao. These projects will help in validating digital standardisation application packages for operational use in the country's resources management.

/06091

Plans for Launching Satellite From USSR

55000050 Bombay THE TIMES OF INDIA in English 3 Nov 87 p 18

[Text] Moscow, November 2 (UNI)—An Indian satellite weighing about 900 kg will be launched by the end of this year or early next year from the Baikanur cosmodrome, a highly-placed Soviet space official said.

The Indian satellite, consisting of components manufactured indigenously, will carry out distant probing of the earth.

The launching expenses will be met by India. Earlier Indian satellites in the Aryabhatta and Bhaskar series had been launched free of charge by the Soviet Union.

It was also revealed that India and the Soviet Union are jointly working on an ambitious project to build Sputniks of a higher technical space level with side observation locators.

This will enable both countries to receive the desired information from space even in cloudy or inclement weather conditions.

If the project succeeds, it will be implemented in 1994-1995. The two countries are expected to undertake more joint projects, including installation of Indian devices in Soviet orbital stations and Sputniks.

The official source said the Soviet Union was prepared to offer to interested countries on a lease its communications satellite "Horizont" and space equipment.

The Soviet Union, he said, could photograph the topography of these nations on their request and also provide them other information acquired through distant probing of the earth.

It was also ready to offer them rockets of the "Cosmos", "Vostok" and other series, including the powerful and ultra-modern "Molniya".

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Remote Sensing Satellite Sent to Soviet Union

BK241630 Delhi Domestic Service in English 1530 GMT 24 Jan 88

[Text] The Indian remote sensing satellite, IRS 1-A, was airlifted today in a special chartered flight from Bangalore to the Bikanour cosmodrom in the Soviet Union. The 980 kg satellite will undergo a series of tests at the cosmodrom after which the necessary propellant will be loaded on it.

An ISRO [Indian Space Research Organization] press release says it will be then fixed to the rocket carrier. The satellite will be launched in mid-March this year aboard the Soviet Vostok launch vehicle.

Computer Project Planned To Link Nation

55500055 Calcutta THE TELEGRAPH in English 30 Nov 87 p 5

[Text] New Delhi, Nov. 29: If you wish to travel from Calcutta to a remote village in Rajasthan and that involves the use of multiple mode of transport, you need not worry. The integrated ticketing system being planned by the government will not only provide information for air, train or bus travel but also arrange reservations. Quite simply, the computer will take care of you.

The ministry of communications recognising the ever increasing importance of information systems in the development process has planned a public data network called "Vikram" which would include the integrated ticketing system. It would link all the airports, railway stations and bus stands. The government has already cleared the floating of tenders for the project.

The ticketing system is not the only feature of the new information revolution. Several government agencies are working on a number of projects to make computer communications a success.

The department of telecommunications(DoT) with the help of satellites, is trying to send telegrams through a computer network on an experimental basis in the north-eastern states. This would not only ensure efficient transfer of information but also link up inaccessible terrains.

The chairman of the University Grants Commission, Prof. Yashpal, has worked out several applications of computer communications. Recently, while addressing an international computer communication conference, he said all the 25,000 telegraph offices in the country should be linked up so that a message reaches an address within two hours of its despatch. In the present system the messages are transmitted through teleprinters which prove to be inefficient because at each district headquarters the messages, in punch tapes, often get inter-mixed.

Besides, there is a plan to connect all the universities of the country through the network. Prof. Yashpal hopes all the major libraries will also be connected so that research material is available for reference at the push of a button. As an experiment, the National Computer Software Centre in Bombay was recently linked to the city branch of the Indian Institute of Technology. Mr S. Ramani, director of the centre, said the network provided a "stimulating environment."

The networks have already proved successful in several developed and developing countries. Tunisia has a information network which is directly linked to the Prime Minister's office. Costa Rica had Cabinet (an agricultural computer network) and Australia is the center of Spearnet (South Pacific Education and Research Network).

The airlines and the press are also resorting to network facilities. Air-India handles roughly 20,000 messages a day for passenger ticket confirmation and providing linked flight bookings. They have recently given a Rs 2-crore contract to the Computer Maintenance Corporation for handling their messages. The Press Trust of India had its first network just after the Asiad and now The Times Group is planning a network with an investment of Rs 75 lakhs. The Hindu has its Delhi and Madras offices already connected through modems. The clatter of typewriters and inky pens in these offices are being replaced by noiseless boards and futuristic consoles.

The new information technology has dimmed the line of demarcation between the department of telecommunications and the department of electronics as at a point the functions overlap. Establishment of computer networks according to Mr. Ramani, would make telephones redundant. A network is cheaper, has a low noise level, negligible loss of information and supports an automated system to get a feed back.

08309

Submarine Cable Link to UAE Inaugurated

Calcutta THE TELEGRAPH in English 11 Nov 87 p 4

[Text] New Delhi, Nov. 10 (PTI): A submarine cable link between India and the United Arab Emirates (UAE) providing direct dialling facilities was commissioned today.

The minister of state for communications, Mr Santosh Mohan Dev, made the inaugural call to the ruler of Fujaira (UAE) Shaikh Hamad Bin Mohamed al-Shirqui. He also received a return call to his Parliament House office from the minister for communications, Mr Arjun Singh, in Fujaira.

08309

Remote Sensing Satellite Launch for Early 1988

55500054 Madras THE HINDU in English 22 Nov 87 p 16

[Text] Bombay. India's first ever state-of-art operational remote sensing satellite, IRS-IA, with a resolution of about 35 metres, is scheduled for launch from the USSR in the beginning of next year. Dr. U.R. Rao, Chairman of the Indian Space Research Organisation (ISRO), has said.

Delivering a talk on the "Role of space technology in the development of the country" under the auspices of the Economic Research and Training Foundation of the Indian Merchants Chamber here, he said plans were also underway to supplement the IRS with microwave remote sensing satellites having all-weather capability.

Dr. Rao said the proposed establishment of National Natural Resources Management System (NNRMS) with five major remote sensing centres would ensure smooth and timely flow of direct inputs from space into agriculture, water resources, forestry, mineral resources, soil surveying, drought management and oceanography.—UNI

08309

IRAN

PTT Builds 4 New International Communication Stations

55004703 Tehran KEYHAN INTERNATIONAL in English 17 Nov 87 p 6

[Text] Tehran, Nov 16 (Kayhan Int'l)—Minister of Post, Telegraph and Telephones (PTT) told the Islamic Republic News Agency (IRNA) in Mashhad (Khorassan Province) on Sunday that four new international communication stations had been built in different parts of the country.

He pointed out that the new stations were similar to Martyr Qandi International Communication Station in Assadabad-Hamadan Province.

He said that with the opening of the four new stations, the number of international channels had been quadrupled from 612.

Referring to the telecommunication company's technical progress, Gharazi said that the company presently was designing a satellite and it was working to manufacture telex and macrowave machines.

He added that 4,000 technicians and workers were manufacturing different telephone and communication sets at Shiraz telecommunication factories and the telecommunication technology of Iran was moving towards self-sufficiency.

He also said that by expanding the communication systems of Iran, by the end of the current Iranian year (Marach 20, 1988), 300,000 new telephone connections would be given to the prospective subscribers across the country.

"Besides, by the end of the current year, all Iranian cities will have a telephone code," he added.

/12223

ISRAEL

New Network C FM Transmitter Inaugurated in North

TA010926 Jerusalem Domestic Service in Hebrew 0900 GMT 1 Jan 88

[Text] The Communications Ministry is inaugurating a new Network C [531 kHz—FBIS] FM-stereo transmitter in the Haifa and northern region. Our correspondent Elihu Ben-On reports that the new transmitter, broadcasting on 93.3 FM, will provide the entire Haifa, western Galilee, Yizre'el Valley, and high-altitude Galilee areas and with good-quality reception.

Communications Ministry Director General Ben-'Ami Gov said that the ministry will continue to take action to see to it that the entire country is serviced by FM transmitters to allow the listeners to receive network C's FM broadcasts.

PAKISTAN

Experimental Satellite To Be Launched in June

BK120333 Islamabad Domestic Service in Urdu 0200 GMT 12 Jan 88

[Text] Pakistan will launch its first experimental satellite in June of this year. A spokesman for the Space and Upper Atmosphere Research Commission said in Lahore yesterday that the experimental satellite "Badr" will weigh about 75 kg and will orbit at a distance of 300-400 km in space, generally passing over Pakistan twice and sometimes three times a day.

The entire work relating to the manufacture of the satellite has been accomplished by Pakistani engineers and scientists. With the assistance and cooperation of Arab countries, the experimental satellite will also help in conducting various experiments to further promote space technology, the spokesman added.

Swiss Aid Pakistani Technology Revolution

55004702 Karachi DAWN in English 16 Nov 87 pp I-II

[Text] The coming together in a joint venture project of a Pakistani company, Messrs Digital Communications and a Swiss high tech firm, Messrs High Technology Systems or HTS, has resulted in a revolutionary new trend in the flow of technology.

Digital Communications, a hundred per cent Pakistani company involved, is teaming up in a joint venture with its counterpart high technology systems of Switzerland. The venture involves the incorporation of Pakistani High-technology know-how in complex process designing for the development of Hi-tech products. Digital, has already made its mark in the design and manufacture of Hi-tech office automation systems, telecomm systems and a broad spectrum of computer-based systems. The recently successful implementation of the Electronic Cricket Scoring system for the World Cup 1987, is their latest accomplishment.

The occident will meet the orient and the coming together of this Swiss development and engineering company and highly skilled engineers of Digital communications will result in the production of the following:

1. Joint development of the "PC-Satellite" projecting a pocket-size high security personal organiser with a full fledged PC keyboard, large LCD screen, lots of RAM, weighing about only 230 grams. Lap top versions would weigh around 4-5 kg and have outside dimensions of about 16x7x2 equal to 224 cm3. Lap tops are around 3000cm3. The unit would be down and up loadable from/to Personal Computers, independent of time and distance.

2. The development of a high security telex systems based on a high security pocket-size computer which will be the token and key for all telebanking transactions (Trade Mark, UNIKEY); all telex messages are encrypted and decoded to prevent line tapping. UNI-KEY will generate the electronic signature to identify the expedient at the recipient's end. An additional session key will prevent any forging or duplication of messages.

3. The development of the "Datamaster" which is an offline data acquisition terminal in pocket-size edition. Due to correct exploitation of talents and component sourcing this hand-held device will cost about one-tenth of a conventional terminal marketed by competitors and will weigh much less and store much more (and with high data security).

4. The development of a truely modular point of sale station concept—from simple authorisation stations with swipe readers to universal customer and cashier

modules. Besides eye-catching design this product family comprises a quantum leap into the mid-nineties with universal high security "smart cards". Instead of about 700 million plastic/mag strip cards, about 200 million high security smart cards will perform an apogee of telebanking functions, including over-simplistic POS functions.

The best of the two friendly world, i.e., Pakistani and Swiss know-how will provide more advanced technology for the total information age. It puts voluminous manuals into the EDP stone age and heralds the end of the eighties under "Big Blue's" leadership.

Repair will become a word foreign to the vocabulary of the technology supplies by this joint venture. This venture will further result in the following: products and applications of the future.

(a) Overall and synoptic engineering skills in the fields of HW and SW (systems are more than single products).

(b) Advanced system technologies for complex and even hostile environmental conditions.

(c) Low-cost but professional conversion of high flown imagination goals into hard-to-bit microelectronics.

(d) Cryptological techniques by means of information-/telematic tools.

(e) Access to all kinds of local and international telecom networks.

The Orient is meeting up with the occident and a perfect chemistry is being created for the development of advanced technologies, optimised manufacturing, testing and assembly procedures and lowest priced component sourcing.

/06662

SAUDI ARABIA

Sweden's Ericsson Seen Leading in Competition for National Data Net

55002425 Stockholm DAGENS NYHETER in Swedish 11 Nov 87 p 17

[Article by Ulf Hillerbrand]

[Text] Ericsson has reached a very advanced stage in negotiations with Saudi Arabia concerning a series of new telecommunications projects. A partial contract was signed last week. It will be carried out in cooperation with Japan's giant NEC [Nippon Electric Company].

DAGENS NYHETER has learned that the contract already signed covers orders worth about 200 million or 300 million kronor. It calls for the installation of fiberoptic networks for data traffic. The work will take place in the vicinity of Jeddah, and a number of personnel will be flown down as early as next week.

In the present situation, Ericsson's management will confirm only that "negotiations concerning a series of telecommunications project are at a very advanced stage." The negotiations are expected to lead to more new orders in 1987.

The biggest individual project is the current competition for a contract to expand the public telephone system. That contract will be worth about 1 billion kronor.

DAGENS NYHETER was told by Magnus Lemmel, area chief responsible to group management: "This deal has strategic importance for us. Winning it will mean that we can continue to be the main supplier to the Saudi Telecommunications Administration and therefore receive new orders in the future."

Lemmel said: "As far as the other deals are concerned, I suppose we can say that we are at various stages of negotiation. The size of those projects ranges from a couple of million to between 200 million and 300 million kronor. Those various deals are not directly dependent upon each other."

Well Established

The deal which, according to our information, has already been signed involves cooperation with the NEC, the Japanese electronics giant.

"We are subcontractors for a system for which the NEC has full responsibility. This may be a one-time event, or it may lead to several deals. It is nothing sensational in itself; this kind of cooperation is part of the business," says Magnus Lemmel.

Ericsson has long been well established in Saudi Arabia, where it has installed both mobile telephone systems and the public AXE-based system that completed the project. Last year the Middle East accounted for just over 1 billion kronor of the group's total sales.

11798

Yakovlev Receives Bulgarian Media Official

08152310 Moscow Domestic Service in Russian 1630 GMT 15 Dec 87

[Text] Today Aleksandr Nikolayevich Yakovlev, member of the Politburo and secretary of the CPSU Central Committee received (Palo), chairman of the Television and Radio Broadcasting Committee of the Bulgarian Council of Ministers. During a friendly discussion, issues of Soviet-Bulgarian cooperation in the sphere of radio broadcasting and television were discussed. Taking part in the conversation were Aksenov, chairman of the USSR State Committee on Television and Radio Broadcasting, and Pankov, ambassador of the People's Republic of Bulgaria to the USSR.

Telephone Accord With Spain

55001014 Madrid Domestic Service in Spanish 1230 GMT 18 Dec 87 LD

[Excerpt] A few minutes ago Luis Solana, president of Telefonica; Antonio Lopez, president of Amper; and Erlen Pervyshin, Soviet minister of communications equipment industry, signed in Moscow a document on creating the first Hispano-Soviet mixed company. In this company, which will make telephones, Amper has a 45% share and Telefonica, 4%; 51% belongs to the Soviet state. The total investment is 1.1 billion pesetas. The planned annual production is 500,000 telephones for the Soviet market, with a small proportion for export.

Soviet TV to Australia

Moscow World Service in English 0110 GMT 12 Dec 87 LD

[Excerpt] Starting next January Australians will be able to watch Soviet television sitting in their armchairs. On 1 January Soviet national television is to begin broadcasting to Australia. An agreement to that effect has been signed by the Soviet television and radio broadcasting committee, Gosteleradio, the Australian (Curly?) Company.

SYRY Firm Supplies Moscow Telephone Exchange

PM081151 Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Feb 88 p 3

[B. Lyanov report: "Computer Will Link Subscribers"]

[Text] Moscow—The USSR's first quasi-electronic automatic telephone station will be fully loaded with the transfer of the last few hundred telephones in the capital's center from the code "228" to the code "928." Representatives of the Yugoslav firm "Iskra"—which supplied the equipment—helped in its installation. The replacement of the obsolete devices with more modern ones has made it possible to make do with half the number of working areas which would have been required by automatic telephone stations of the previous generation and to reduce the number of servicing personnel by a factor of four. The no less complex stage of assimilating the new equipment now faces the communications workers.

Satellite TV in Pamirs

55001012 Moscow Domestic Service in Russian 0900 GMT 14 Dec 87 LD

[Summary] A new Ekran space communications system relay allows Rushan Rayon in the Pamirs to receive two central television programs starting today.

Currently there are 95 space communications stations in the Orbita, Moskva, and Ekran systems in the Pamirs, as well as hundreds of kilometers of radio relay lines, ensuring good reception of two central television programs on 90% of the Pamirs territory. By the end of the year, two more major rayons of the Gorno-Badakhshan Autonomous Oblast are to get space links to Moscow.

TV Cover Extended in Chechen-Ingushetia Region

PM081205 Moscow PRAVDA in Russian 2 Dec 87 Second Edition p 3

[TASS report: "To Television Screens"]

[Text] Groznyy, 1 Dec—The zone of television program reception in Chechen-Ingushetia is being extended. Powerful retransmitters constructed in the settlement of Znamenskoye and the village of Mekenskaya have eliminated the gaps on the television "map" of the autonomous republic's steppe rayons. With the help of retransmitters and reception stations, television screens in all settlements in the autonomous republic will light up by the end of the 5-year plan.

'Raduga' Communications Satellite Launched

LD110816 Moscow TASS in English 0808 GMT 11 Dec 87

[Text] Moscow December 11 TASS—The Soviet Union Thursday launched another communications satellite in the Raduga (Rainbow) series.

It is meant for ensuring telephone, telegraph and radio communications and transmitting television programs.

The satellite was inserted by a proton booster into what is close to a circular stationary orbit. The equipment on board the satellite is functioning normally.

Kazakh TV Relays

55001011 Moscow Domestic Service in Russian 2330 GMT 30 Nov 87

[Summary] The viewers of Dzhezdinskiy Rayon now can watch two television channels, thanks to the introduction into service of a powerful radio relay line from Dzhezkazgan to Dzhezdy in Kazakhstan. By the end of this 5-year-plan 90 percent of all viewers in Kazakhstan

should be able to receive two television channels. Two 100-km radio relay lines have begun to operate on solar power in Dzhezkazgan and Manghzhlak Oblasts.

/06662

New Television Transmitter

Moscow Domestic Service in Russian 0900 GMT 17 Dec 87 LD]

[Summary] A new relay transmitter has been brought into operation in Tselinograd Oblast, giving reliable reception of Central and Kazakh Television in color in Makinsk Rayon.

TV-Radio Protocol

55001008 Moscow TASS in English 2012 GMT 30 Sep 87

[Text] A protocol on cooperation among the USSR State Committee for Television and Radio (Gosteleradio), the USSR-France and France-USSR Societies in 1987-1988, was signed in Moscow today. Under the protocol, the USSR-France" and France-USSR Societies will assist in extending ties between the USSR State Committee for Television and Radio and French radio stations. The protocol provides for swapping radio programs about the lift of Soviet and French peoples and on Soviet-French cooperation in the field of culture and science.

/12223

New TV Stations

55001007 Moscow Domestic Service in Russian 25 Nov 87

[Text] Aktyubinsk: Inhabitants of Bayganinskiy rayon, which is one of the rayons farthest from the oblast center, can now watch TV programs in color. A booster station was put into operation today in the settlement of Bayganin. It will ensure stable reception of TV programs in this rayon and three neighboring rayons. The oblast's signalmen this year completed the reconstruction and replacement of obsolete television systems, and assembled eight new TV stations of the Moskva type.

/12223

EUROPEAN AFFAIRS

EEC's Networking Project

5500a059 Amsterdam COMPUTERWORLD in Dutch 7 Jul 87 p 3

[Text] Zoetermeer—The EEC has provided over 6 million guilders to conduct research into a suitable communications infrastructure between research institutes and industrial research labs in Europe. Research will be conducted within the framework of COSINE (Cooperation for Open Systems Interconnection Networking in Europe), a EUREKA project aimed at standardizing computer communications in Europe. A major goal of the project is to secure for European industry a competitive position on the computer communications market. The future European research network will be based on OSI standards. The COSINE project was given the EUREKA label in November 1985. The project is led by RARE [Associated Networks for European Research], an organization including mainly university network operators in European countries. The Netherlands is represented by SURF [University Computing Centers Cooperation], the organization responsible for stimulating computer applications at universities, colleges, and research institutes. COSINE's specifications will be completed in about 1 year with a report on the results, after which the project's last phase will begin: the actual standardization of the European network.

25048/9604

Electronic Document Delivery Finding Concrete Applications

5500a055 Amsterdam COMPUTABLE in Dutch 19 Jun 87 p 7

[Unattributed article: "Scaneurop Bureau for Optical Scanning"; first paragraph is COMPUTABLE introduction]

[Text] Luxembourg—The French Telesystemes together with an associate in London and another in Berlin set up a bureau for optical scanning. The basic techniques for Scaneurop were developed within the European Docdel program. Its first task will be to optically record the European patent registration and to make it widely accessible.

The EEC Commission invested 3.5 million ECU's (8.7 million guilders) in the Docdel program for the development of electronic document delivery. The CEC Directorate XIII-B ("information market") in Luxembourg was responsible for this project and related activities. The directorate is now organizing a number of seminars in the various EEC countries to publicize Docdel's results. More information can be obtained from Pergamon Infotech in the UK, on +44 628 39 101.

Transdoc was one of the 10 Docdel projects in which several French companies and state-run bodies participated. A number of these participants are currently developing services based on the results of the Docdel program. For instance, the French Patent Office is going to store its own patent information on optical disk and make it accessible via computer systems; the French Electricity Company is setting up an optical archive of internal memorandums; and the Scientific Documentation Center is establishing a center for fast document delivery to subscribers.

In fact, commercialization is not only taking place at government or university level. The Federation of the National Trade Press, the National Library Council, and the French Gas Company are developing services based on optical data recording. In addition Telesystemes has set up a service bureau which helps its customers store files on optical disks (digital or non-digital) and CD ROM. The origin of this service is yet again the Docdel-/Transdoc project.

Telesystemes is also involved in a multinational project together with the British Microfilm Reprographics and SRZ from Berlin. These three firms have set up Scaneurop, the "first European bureau for optical scanning." This bureau will first have to digitize all European patent information as from 1920, store it on disk, and make it accessible. This involves around 65 million pages of text and illustrations.

25044/9604

DENMARK

Storno Company Developing Mobile Phone in Europe Net

55002411b Copenhagen BERLINGSKE TIDENDE in Danish 12 Oct 87 Sec III p 2

[Text] Storno is in the process of developing mobile telephones for the Pan-European system that is expected to be set up in the early 1990's. Today mobile telephones can only be used to reach numbers within the Nordic region. With the establishment of a joint European network car telephones could be used anywhere in Europe.

06578

Study Indicates Hybrid Net Plan in Trouble

55002411a Copenhagen BERLINGSKE TIDENDE in Danish 7 Oct 87 p 8

[Article by Poul Erik Petersen: "Satellite Dishes Ahead of Hybrid Network"; first paragraph is BERLINGSKE TIDENDE introduction]

[Text] The hybrid network is lagging behind satellite dishes according to a researcher from Odense University. But starting next year 300,0000 households cold be hooked up to the hybrid network.

Satellite dishes have won the first round of the contest with the hybrid network in the fight for TV viewers' favor. Associate Professor Lars Qvortrup of Odense University has conducted a survey that shows that around 170,000 households in Denmark are now hooked up to satellite dish antenna systems while so far only around 100,000 are hooked up to the telephone companies' hybrid network.

On the other hand Lars Qvortrup also thinks stagnation has set in on the satellite dish market. So it is possible that the second round could be won by the hybrid network, although according to the Odense professor the budgets of the three big telephone companies are lagging behind.

Jorgen Michelsen, Copenhagen Telephone Company [KTAS] division chief, told BERLINGSKE TIDENDE that Lars Qvortrup's figures are not correct. On the national level there are around 150,000 households that have an opportunity to be connected to the hybrid network. And before the end of next year the figure will rise to 300,000.

It is primarily big cooperative housing societies that favor a hybrid network hookup. Just in the last few days agreements have been reached with big societies in Horsholm, Holbaek and Nykobing, Sjaelland.

So far the biggest agreements signed in Sjaelland have been in Vallensbaek, Brondby Strand, Hillerod, Roskilde, Tastrup and Virum.

Lars Qvortrup notes in connection with his survey that it is difficult to find out who is connected to the hybrid network. Whether it is only municipal installations and the telephone companies' own systems. And he suggests that hookups can have political overtones.

At the same time he stresses that he does not know the geographic distribution of hookups and that his survey relies solely on articles in newspapers and magazines along with his own information but that he has been unable to get figures and information from the telephone companies.

06578

FEDERAL REPUBLIC OF GERMANY

Bosch Strengthens Position in Communications Technology Market

Full Ownership of Telenorma

55002434 Duesseldorf HANDELSBLATT in German8/9 Jan 88 p 15

[Text] Robert Bosch GmbH, Stuttgart, has acquired the remaining shares of Telenorma (TN), Frankfurt, and thereby further strengthened its position in the promising communications technology market.

According to a statement, Bosch has acquired the shares of Telenorma holding company mbH & Co., Frankfurt, held by AEG AG, Frankfurt; this indirect AEG participation in the capital of Telenorma Telefonbau und Normalzeit Lehner & Co. amounted to approximately 10 percent. After the remaining shares of an old shareholder were also acquired, Telenorma is now owned 100 percent by Bosch. Bosch did not give out any information on the purchase price. It was emphasized that there would be no changes in the Telenorma management.

Communications technology, with sales of approximately DM6 billion, is now Bosch's second-largest sphere of operations, after its traditional motor vehicle equipment. Among FRG competitors, only Siemens ranks ahead of Bosch in this "market of the future."

The full takeover of TN is a further step taken by Bosch within a few weeks toward strengthening its activities in the field of communications technology. It was preceded by a capital increase in ANT Nachrichtentechnik [telecommunications technology] GmbH, Backnang, to 81.6 percent through acquisition of the shares held by Mannesmann. And at year's end, corporate headquarters at Stuttgart's Schillerhoehe announced Bosch's participation in the telecommunications business of the French Jeumont-Schneider enterprise; in the course of the year, the initial participation of 35 percent is to be increased to 80 percent.

Jeumont-Schneider is the second-largest French enterprise in the telecommunications market. In 1987, sales in this field amounted to approximately FF1 billion; the number of employees is 1,400. The future cooperation will be carried out through the Bosch subsidiary, Telenorma. As early as 1985, Telenorma had already concluded a cooperation agreement with Jeumont-Schneider.

Joint Development of the Future ISDN Network

Among joint activities are the development of products and systems for the future "ISDN network" of postal administrations, and mutual deliveries of private branch exchanges. Telenorma, with 17,000 employees, produces over DM2 billion in sales, making it the second- largest supplier of private communications systems (particularly private telephone branch exchanges).

The communications technology field at Bosch rests on three foundations: mobile communication with Blaupunkt and Elektronik, private communications technology with Telenorma, and transmission technology with ANT.

Share in Jeumont to Increase

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 31 Dec 87 p 17

[Text] The Bosch group is energetically expanding its involvement in communications technology, which their management considers one of the growth areas of the

future. It was learned in France several days ago (F.A.Z. of 30 December) that Bosch will initially acquire 35 percent of the shares of J.S.-Telecommunications S.A., Paris, the separate telecommunications area of the French Jeumont-Schneider S.A., Paris, provided official permissions are granted. The intent is to increase participation to 80 percent in the course of the year. This participation constitutes the basis for close cooperation between both companies. Bosch is represented in communications technology through its subsidiary, Telenorma, which is considered the second-largest German enterprise in the field of private communications systems. With approximately 17,000 employees, Telenorma in 1987 achieved sales of over DM2 billion. According to figures provided, Jeumont-Schneider is the second-largest French enterprise in this field, has a staff of 1,400 employees, and has a turnover of about DM300 million. Telenorma and Jeumont-Schneider have been cooperating since 1985. Among other things, joint activities include the development of products and systems for the service-integrating digital telecommunications network (ISDN), and mutual supply of private branch exchanges. In the opinion of Bosch and Jeumont-Schneider, the need for close European cooperation results from the digitalization of communications technology.

9917

Bosch Strengthens Position in Telecommunications Sector

55002430c Munich SUEDDEUTSCHE ZEITUNG in German 1 Dec 87 p 24

[Article:"Bosch Strengthens Telecommunications Technology With ANT"]

[Text] Stuttgart/Duesseldorf (XS/JAS)—Robert Bosch GmbH of Stuttgart continues to increase its involvement in telecommunications technology, which is now the company's largest area of activity after automotive equipment. Telenorma Beteiligungsgesellschaft GmbH & Co., of which Bosch owns 85 percent and AEG AG of Frankfurt owns 15 percent, has obtained additional shares of Telenorma Telefonbau und Normalzeit Lehner & Co. of Frankfurt from the previous shareholders amounting to more than 34 percent. Its share is therefore now nearly 100 percent. Telenorma is involved in private and public telecommunications technology, as well as in information technology, and in the past year its more than 17,000 employees achieved over DM 2 billion in sales.

Robert Bosch GmbH, which owns 40.8 percent of ANT Nachrichtentechnik GmbH of Backnang via a holding company, is acquiring an additional 40. 8 percent of this company from Mannesmann AG of Duesseldorf. Permission from the Federal Cartel Office has been applied for. Mannesmann's participation in ANT, begun 7 years ago with high hopes for a brilliant future, thus comes to a relatively subdued and quiet end for the Duesseldorf machine construction company. Another 18.4 percent of ANT stock is held directly by Allianz AG of Munich. The Backnang company had 7000 employees and DM 1.3 billion in sales in 1986. It is involved in public telecommunications technology (transmission technology). Regarding the divestiture of its ANT shares, Mannesmann says that these shares have been viewed strictly a financial asset to the company after nothing came of the original broad-based Telematic concept (complete company-internal and -external telecommunications system).

ANT Nachrichtentechnik was in the headlines in 1986 after Christian Schwarz-Schilling, the Minister for Post and Telecommunications, personally withdrew the application for a new telegram service system (TDS) with which the Backnang company was apparently having difficulty. Mannesmann and Bosch have agreed not to disclose the purchase price of the ANT shares. Mannesmann will use the proceeds—already this year the company has acquired a majority share of Fichtel & Sachs AG of Schweinfurt—for further diversification.

With this new ownership of Telenorma and ANT, the telecommunications sector at Bosch now has sales of DM 6 billion and employs 38,000 people. The company already announced at mid-year that a new business sector, mobile telecommunications, is being formed within the telecommunications sector and will begin operation on 1 January 1988.

12552

European Cellular Telephone Network Beginning in 1991

55002430d Duesseldorf HANDELSBLATT in German 5 Nov 87 p 19

[Article: "Bosch-Philips. Cellular Telephone Cooperation"]

[Text] Stuttgart, 4 Nov (GH)—Bosch and ANT on the one hand and Philips on the other will be cooperating on the planned European digital cellular telephone system. Bosch management reports that a consortium will be formed between Robert Bosch GmbH of Stuttgart, its subsidiary Telenorma Telefonbau und Normalzeit Lehner & Co. of Frankfurt, ANT Nachrichtentechnik GmbH of Backnang held by Bosch-Mannesmann, and Philips Kommunikations Industrie AG (PKI) of Nuremberg.

According to the report, the intention of the partners is cooperation with other European firms in establishing the European cellular telephone system. The digital, cellular system with a frequency range of 900 MHz can be used across national boundaries and is expected to be in place as early as 1991. Invitations to bid on the first system installations will go out at the beginning of 1988.

During the brief period up to and including the beginning of network expansion, extensive development work will be required both on the system and the components. That is why the companies agreed to cooperate in the form of a consortium.

12552

Bundespost Launches ISDN Pilot Project

55002430a Duesseldorf HANDELSBLATT in German 25 Nov 87 p 16

[Article: "Bundespost and Equipment Manufacturers Should Come to Closer Understanding"]

[Text] Stuttgart, 24 Nov (LT)—Dr Christian Schwarz-Schilling, the Minister for Post and Telecommunications, officially presented the Mannheim/Stuttgart ISDN pilot project to the public at the 1987 ISDN Congress in Stuttgart (November 24 - 25).

With the new ISDN (integrated services digital network) service the German Bundespost has assumed a leading role world-wide with respect to standardization, said Schwarz-Schilling, adding that Japan and the United States had also indicated that they would adopt the ISDN philosophy to which the Bundespost had committed itself very early on.

According to Schwarz-Schilling, the first ISDN digital local switching offices connected in series are to begin operation by the end of 1988. Moreover, all of the digital local switching offices which begin operation in 1989 and later are expected to be able to add ISDN subscribers. The digital local switching offices installed between 1985 and 1988 in the digital telecommunications network of the German Bundespost will be expanded to include ISDN features by 1990/1991.

In 1990, says Schwarz-Schilling, approximately 100 digital trunk exchange offices and 200 digital local switching offices will be installed in the digital telephone network of the German Bundespost, reaching half of all telephone customers and therefore the vast majority of all potential ISDN customers without going beyond the boundaries of the local network.

The goal is to be able to offer nationwide ISDN coverage within approximately 5 years of initiating serial operation, i.e. by 1993. As a result of close cooperation between the FRG and the telecommunications agencies in France, Great Britain and Italy, there are also plans to connect the ISDN networks of these four nations to one another by 1989/90.

Investments by the German Bundespost for the years 1986 to 1990 are at over DM 15 billion for the digitalization of the telecommunications network (90 percent of the total) and for the digitalization of subscriber lines as a prerequisite for ISDN. The beneficiaries of these investments will be smaller and medium-sized users who, for cost reasons, cannot now afford their own data processing networks.

Schwarz-Schilling emphasized that the success and acceptance of a telecommunications network depend greatly on the attractiveness of the terminal equipment intended for the network. The two components—network and terminal equipment—are closely tied to one another. It would be counterproductive if both network operators and terminal equipment manufacturers were to wait anxiously for the other to lay the necessary groundwork before they themselves undertook appropriate measures.

12552

Dornier, MBB Demonstrate New Telecommunications Services

55002422c Duesseldorf HANDELSBLATT in German 26 Oct 87 p 15

[Article by aj, Geneva: "German Industry Well Represented in Geneva"]

[Text] With 42 firms on a 70,000 square meter exhibition area German industry is well represented at the International Telecommunications Fair, Telecom 87, in Geneva. Especially the aeronautical and space industry is showing itself to best advantage.

Dornier exhibits a communications system for trucks, which is switched via satellite. There is a device on top of the cab no bigger than the blue light of the police cars or the yellow blinking light of a heavy-duty truck. In the cab there is a small screen connected with a printer. A similar device is in the headquarters of the forwarding company. Now the driver can get any information from his firm while driving. Likewise the driver is able to give a written response by satellite.

Another product exhibited by the firm in Geneva is a mobile TV transmitter. It is mounted on a flat-bottomed vehicle, can be set up at any point in short order and from there can then transmit TV reportages via satellite. The system can be used in a mobile manner wherever there is otherwise no access to the TV network. German and Swiss TV have already ordered some units.

Dornier, in Geneva, is also showing a device intended for shipping, which operates with the aid of a satellite: a maritime distress call buoy which floats when a boat or ship sinks and reports by satellite the exact position of the damaged ship to coastal stations.

The biggest German aeronautical and space group of companies, Messerschmitt-Boelkow-Blohm (MBB) demonstrates completely novel satellite services in Geneva. Included herein is the so-called ComLink system. It is supposed to improve communications of large firms or

groups of companies with their branches which occasionally are scattered all over. For this purpose each station is equipped with a small parabolic antenna of 60-centimeter diameter. Communications between the branches also over large distances is now possible independently of the telephone network. MBB staff has figured out that using the ComLink system is economical with 40 different reception points.

Representatives of the firm in Geneva report that negotiations are also going on with China. There the new system may perhaps be used for educational purposes. The country now has about 400,000 students, but the goal is 1.8 million students. Here courses of study by such communications systems as ComLink may offer a solution. It is not yet known whether Beijing will place an order for it. There is also said to be hard international competition. But since there is anyhow cooperation with China in the construction of a communications satellite, Dietrich Davidts, the boss of the newly created space communications division with MBB, thinks there are good prospects here for success.

12356/9604

SEL Developing Lower Cost Fiber Optic Production Process

55002422b Duesseldorf HANDELSBLATT in German 26 Oct 87 p 15

[Article by gh, Stuttgart: "Further Technology Leap"]

[Text] The Standard Electrik Lorenz AG [SEL] has now started a new optical waveguide production. The annual production capacity is around 50,000 fiber kilometers per year; if required the plant can be expanded to 120,000 fiber kilkometers by 1990.

With the investment of DM 40 million SEL has created the condition to enable it to supply the German Federal Postal Service as principal public consumer with series-produced glass fibers "in a new order of magnitude," Chief Executive Officer Dr Helmut Lohr stated at the dedication of the new plant in Stuttgart-Zuffenhausen. The German Federal Postal Service has now completely adjusted to the single-mode optical fiber produced here, which, compared with the preceding generation, has a considerably greater bandwidth and clearly lower attenuation, according to the SEL management. A further technology leap is being prepared in the SEL research center. As early as the end of the decade a new process will be available by which glass fibers for mass use in the local exchange area could be produced even more economically.

SEL has produced glass fibers since 1976. According to information from the management, in 1985 glass fibers accounted for roughly 10 percent of the sales of the cable division; in 1987 glass fibers will constitute 35 percent of just under DM 200 million and in 1992 plans for glass fibers call for a share of 45 percent of SEL cable sales. Principal customers with over 50 percent of the sales are the Federal Postal Service and the Federal Railroad.

In comparison with copper cable, which is still the main sales item, glass fiber has the advantage of greater bandwidth, which makes it possible to transmit large amounts of information, of a lower attenuation—a repeater is required only every 30 to 50 kilometers—and of a lower weight and volume.

12356/9604

Siemens Introduces New Telecommunications System

55002422a Duesseldorf HANDELSBLATT in German 27 Oct 87 p 18

[Article by ruk, Geneva: "Postal Service Places Order for Seven Systems; Siemens/EWSP-V: Link Between Text and Data Networks"]

[Text] At the Telecom 87 Fair, Siemens presented its new switching system, EWSP-V, which for the first time can link all existing data networks and offers additional services of selective distribution or information storage (value-added network services). In the FRG the German Federal Postal Service placed a general contract for seven EWSP-V systems.

Based on its EWSP high-performance packet switching, Siemens has developed a new system supporting switching. EWSP for the first time makes possible transitions between all text and data services of telex and teletex by telefax and the power and packet-switching services up to the ISDN. "Packet-switched" in this context denotes that data bundled in a kind of packet form are transmitted over a circuit. The "packet" has nothing in common with normal postal packages.

As part of this order Siemens contributes the EWSP power switching system with the appropriate transfer functions, Digital Equipment supplies functions for electronic mail and message handling as well as hardware from its fully compatible computer family.

EWSP-V at the same time is a further development from the pure data movement network to the intelligent data network. It comprises functions such as automatic multi-address calling, transmitting according to distribution lists or different distribution priorities as well as staggered transmissions during periods of favorable rates as well as redial circuit and data storage upon receipt. In this connection the mailbox functions correspond to International Standard X 400 of the CCITT.

In the face of a strong international competition Siemens received the general contract from the German Federal Postal Service to implement the EWSP as general contractor. The first order comprises the delivery of six switching systems to Duesseldorf, Frankfurt/Main,

Hamburg, Hannover, Stuttgart and—probably—Nuremberg and of a test system for the Telecommunications Central Office in Darmstadt.

Because of the market volume estimated at DM 500 million for Europe alone, Siemens and also Digital Equipment attach great importance to cooperation in EWSP-V in the next 5 years. Both firms want to avail themselves of all opportunities to market EWSP-V also internationally. Within this framework further points of departure for cooperation are to be utilized also for other value-added network services.

12356/9604

Technical, Marketing Questions Surrounding TV-SAT 1 Examined

5500m148 Duesseldorf VDI-NACHRICHTEN in German No 48, 27 Nov 87 p 17

[Article by Regine Boensch: "TV-Sat Approaches its Geostationary Position; Success After 7 Years of Development; To Show CompleteOperational Capabilities by February 1988 at the Earliest;" first paragraph is VDI-NACHRICHTEN introduction]

[Excerpts] VDI-N, Duesseldorf, 27.11.87 — After several delayed starts, the FRG's TV-Sat 1 has found its way into space. Although it still appears like a prototype [fluegellahm] it is nevertheless the largest and most powerful broadcasting satellite ever built in Europe and launched into orbit at a distance of 36,000 km from the earth.

The planning for this event started a few years ago. In April 1980 the governments of France and the FRG decided to commission their industries with the development and manufacture of a new family of satellites. The customers on the FRG side are the Federal Ministry for Research and Technology [BMFT], the German Experimental Institute for Aeronautics and Astronautics (DFVLR), and the central telecommunications office; on the French side [they are] the space organization CNES and the French television (TDF). The project, which includes four satellites of similar construction, has been transferred to Eurosat GmbH whose partners are AEG, ANT, MBB-Erno, Aerospatiale, Alcatel-Espace, and ETCA.

The joint project initially produced TV-Sat 1, but the French TDF satellite is also waiting for the approval to start which will probably be given in the fall of next year. Together with the two successor prototypes, the two European countries want to build a complementary system.

Direct broadcasting satellites are characterized, in particular, by their output power. A large portion of their average lifetime power of 3 kW is used for reception and retransmission of 4 TV programs. A solar generator supplies power to the communications module.

The most important component is probably the transmitter/receiver unit. It amplifies the input signals delivered by the receiving antenna and transposes their frequency. An input multiplexer separates the 5 different TV channels (one of them is a standby channel) which are then forwarded to the 230 watt traveling-wave tube of the output amplifier.

This provides the high output power of 230 W per channel. It is the only way to receive the TV programs of ARD-1 Plus, 3 Sat, RTL-Plus, and Sat 1 with relatively small parabolic antennas of 60 cm diameter.

At the time this issue went to the press, engineers were still fighting a problem which could conceivably limit the widely praised characteristics of this high performance satellite, the fact that one of the satellite's power supply panels did not unfold properly.

If the solar cells had been folded down near the satellite in the takeoff phase, the first panels should have unfolded as soon as the power supply panel had reached the transfer phase. The mechanism uses a relatively simple pyrotechnical principle conceived by the French company Aerospatiale: small rockets release springs, clasp knives cut ropes. "The fact that one side unfolded correctly showed us that our control electronics work," reported Dr Eckehard Schmidt of AEG in Wedel, which developed the solar cells. However the north Germans were not disturbed by this problem. "About 1 year ago a similar thing happened with Arabsat," Dr Schmidt continued, "The springs became tilted. By simple shaking and short triggering, the panel unfolded." Perhaps we will know more in 8 days, because by then the TV-Sat 1 will have reached its geostationary position and will have unfolded its blue, shining wings to their full extent.

Dr Schmidt added, "the consciousness of risk had shifted in the wrong direction." Because of delays in the Ariane takeoff, everything had been concentrated on the launching and less on the small complicated satellite and its required functions.

Until the start of its operation in February 1988, the engineers participating in the project are not the only ones who will be concerned. Whether the powerful tubes will start correctly, for example, remains to be seen, as well as the answer to the question of whether the industry will be able by then of mass producing the D2-Mac decoders required for the new TV standard. Will the receivers for digital audio programs be affordable? Will the subscribers accept the 60-cm diameter parabolic antennas, and how will the TV-Sat compete with Luxemburg's telecommunications satellite Astra?

[Box insert]

Looking at the TV-Sat, the German journalistic landscape begins to whirl. Descriptions range from "undesirable" through "outmoded" to "announcing a new era."

Unquestionably this bundle of energy is a miracle of technology with incredible refinements. However, when looking at its orders, doubts arise.

Apart from the fact that the earth satellite in its golden package cost the BMFT and hence the taxpayer DM870 million—of which the FRG postal service already regards DM430 million as "not refinanceable," its impact on the German media landscape seems to be limited.

The digital audio transmission in CD quality, largely admired at the broadcast exhibition with its "considerable innovation potential for the industry and a new audio experience for the listener" (Schwarz-Schilling) [FRG PTT minister], takes place only in the TV-free time between 1:00 and 18:00 hours. TV is given absolute priority.

But here also some things are going badly. The new TV standard D2-Mac is far from being a pan-European standard. In the end, the subscriber will decide to what extent the satellite investment was worthwhile. For a D2-Mac compatible TV set, presently unavailable on the market, including satellite tuner and D2-Mac decoder, the customer will have to pay approximately DM2,000 starting the middle of next year, according to information from the manufacturer. In addition, the old radio can no longer be used since digital audio transmission requires a satellite tuner which will cost more than DM1,000 in the initial phase.

However, Schwarz-Schilling strongly definds the "satellite inheritance" [he received] from the times of the social-liberal coalition. [The satellite] should serve as a supplement "particularly in areas that cannot be connected by cable." But after the FRG postal service found about 150 free terrestrial frequencies between the Alps and North Sea for conventional TV transmission, the TV-Sat's mandate may also be questionable.

08617

Heinrich Hertz Institute Receives HDTV Research Equipment

5500m083 Duesseldorf VDI NACHRICHTEN in German No 45, 6 Nov 87 p 8

[Article by Claus Reuber: "The Heinrich Hertz Institute Develops High Definition TV; Animation Computer Simulates the Images of Tomorrow Today; Color Graphics Computer Replaces the Still Unavailable HDTV Camera;" first paragraph is VDI-N introduction]

[Text] VDI-N, Berlin, 10/30/87—Houses rotate through space, vases full of flowers change their materials and surfaces, machines demonstrate their functions noiselessly. These and many more are real-time illusions created in the studio as animated electronic graphics. The graphic computer is used by video designers for creative special effects, while scientists use this type of simulation as a source for animated sequences for the development of equipment and methods for signal processing in future TV systems.

Robert Bosch GmbH and the Society of Friends of the Heinrich Hertz Institute recently gave the Heinrich Hertz Institute for Telecommunications GmbH in Berlin an FGS 4000 color graphics system; [produced] by Broadcast Television Systems, [which is] a computer for the production of artificial animated objects.

The Heinrich Hertz Institute (HHI) needs the system primarily [for its work] on future high definition TV or "HDTV." The FGS 4000 saves the effort of constructing real test scenes which must show defined sequences of movements. As such, the equipment takes over the function of a studio, in which artificially produced objects are recorded instead of real ones. In addition, the system must be regarded as a replacement of a hypothetical TV camera with an image quality unobtainable from any camera at present.

The color graphic system is superior to a camera in two respects, explained as follows by Prof Georg Boerger, head of the Anthropotechnology department of the HHI: in all real cameras, distortions already occur in the lens, because there is no such thing as an ideal lens without distortions. The key point in this respect is the modulation transfer function. The scanning inside the camera generates additional aperture distortion, due to the finite size of the scanned spot.

In addition for its work on HDTV, the Heinrich Hertz Institute also needs signals that are created by progressive scanning, that is, by scanning of the TV image without the line jump necessary today. This type of camera is not available at present, apart from a single laboratory model in the United States. The color graphic system, however, produces this type of signal with the quality required for the development of signal processing circuitry for the HDTV camera currently under development at the HHI. Therefore, development engineers try to use signal processing tricks instead of progressive scanning with its 50 full images per second and more than 1,000 lines per image.

In this case, the 1,000 lines for the luminance signal are generated with reduced time resolution (for example 25 frames per second), while reduced local resolution with 625 lines, and full time resolution of 50 full frames per second have been selected for color signals. These signals result from sophisticated filtering methods. The details of signal processing must be selected in such a way that test personnel are unable to detect in each case any difference—or at the most only a slight difference—between this and the original [signal].

Since the required "3-dimensional filtering"—3-dimensional because we are talking about two local coordinates and one time coordinate—will become part of a future camera system, it cannot be studied with conventional

camera signals alone, but requires ideal video signals such as those generated by the color graphic system. In this way, the computer acts as a video source. After signal processing, the generated signal must look as if it had been produced by a future camera with high definition and progressive scanning.

"Objects Are Divided into Vectors"

To start with, the computer of the graphic system processes the individual pixels needed for the animated objects. The majority of these are not screen images composed line-by-line as in TV, but vectors. For the color and the luminance of each pixel there are two different data formats: normal precision, with 6 bits for luminance and 4 bits for color difference signals, resulting in 16,384 colors per pixel; and double precision, with 8 bits both for luminance and for two color difference signals, resulting in 16,777,216 different colors.

When the generation of the picture has been completed, the vectors are translated into a TV image. In progressive scanning, this is done with a clock frequency of 13.5 MHz. The system capacity is sufficient for 1,360 lines with nominal precision, and for 680 lines with double precision. The clock frequency of 13.5 MHz corresponds to the scanning frequency of digital TV studio equipment, the standard for the luminance signal in today's TV. The color difference signals, which the color graphic system also scans at 13.5 MHz, can be reduced by half to the required clock frequency for 625-line pictures.

"Image Processing Determines the Quality"

With a clock frequency of 13.5 MHz, the color graphic system does not really match the characteristics of future HDTV with more than 1,000 lines, but then this is not required for the work at the HHI because complete HDTV images are not necessary. Sections of the image with the correct time-space relationship are sufficient. These are generated by the color graphics system, and make it possible to study how the individual picture processing operations influence quality.

In September, during the presentation of the DM600,000 system, already installed on the premises of almost 100 customers throughout the world, Prof Clemens Baack, general manager of the HHI, underlined the importance of the ongoing work within the framework of the European [EUREKA] research project EU 95 for [development of] a European HDTV standard. He referred to the project as an auspicious hour for the entertainment industry in Europe.

At the HHI, the president of Robert Bosch GmbH, Marcus Bierich, recalled the extent to which industry and science depend on cooperation. Only in this way can Europe try to regain the position lost to Japan and the United States in TV technology and especially in the area of HDTV studio equipment.

08617

New Optical Fiber Plant in Berlin to Supply Bundespost

55002430b Duesseldorf HANDELSBLATT in German 125 Nov 87 p 16

[Article: "Berliner Glasfaserkabel GmbH. Production Begins. Aiming for Sales of DM 1 6 Million in 1988."]

[Text] Berlin, 24 Nov (AS)—After approximately 1 year of preparation and DM 10 million in investments, Berliner Glasfaserkabel GmbH & Co. KG (BGF) in Berlin has begun operation.

With an initial 15 employees, 10,000 to 15,000 km of optical fiber cable is expected to be produced annually. According to information supplied by company manager Horst Guenther, the company's goal is to expand the annual production up to 30,000 km of optical fiber.

BGF was founded in March 1986 by five medium-sized cable manufacturers—Bayerische Kabelwerke AG of Roth, Kabelwerke Friedrich C. Ehlers of Hamburg, Kerpenwerk GmbH & Co. of Stolberg, Lynenwerk GmbH & Co. KG of Eschweiler and Waskoenig & Walter KG Besitzgesellschaft of Saterland, which all together represent annual sales of approximately DM 500 million. Of the DM 4 million in BGF capital stock, Waskoenig owns 8 percent and the other four companies own 23 percent each.

Joint Venture Becomes Competitive in Optical Fibers

The actual optical waveguides, i.e. optical fibers, are not actually manufactured by BGF itself but are obtained from other producers and then clad and processed into usable cable in Berlin. The company is aiming for sales of approximately DM 16 million in the next 2 years.

The Federal Cartel Office agreed to the founding of BGF as a joint venture for the manufacture and marketing of optical waveguide cable because this medium-sized cartel will allow the companies involved to remain competitive with large-scale producers even with such technologically advanced products as these.

The major customer of the BGF will be the German Bundespost which, as Minister Schwarz-Schilling explained on the occasion of the official opening of BGF, intends to lay approximately 570,000 km of optical fibers by the end of 1988. By the end of the decade the total is expected to be 800,000 km. Since several "glass strands" are bound in parallel within one cable, the distance covered by the network will of course be substantially shorter than that.

According to Schwarz-Schilling there are still currently some economic barriers which prevent the introduction of optical fibers on a broad scale. The economic feasibility of optical fiber cable with respect to conventional

copper cable also depends very much on its price as well as on its performance. As the minister says, optical fiber cable manufacturers must therefore not base their existence on a single user alone but must see to it that the use of optoelectronics also takes off in the private sector.

12552

ITALY

New Director's Views on Future of Telecommunications

55002423 Rome POSTE E TELECOMUNICAZIONI in Italian Jul-Aug 87 pp 4-10

[Interview with Giuseppe Parrella, new director of ASST [State Agency for Telephone Services]: "Challenges of the Future: How ASST Intends To Meet Them"; by Luciano Burburan]

[Text] The role of the ASST in the TLC transformation phase, the creation of new services—wide-band, narrow-band, in optic-fiber facilities, digital networks, the ISDN, or Integrated Services Digital Network, in which some services will initially be made available to business users and subsequently to the general public—the urgency of more extensive cooperation with and among European countries above all, to meet the various challenges posed by sophisticated technologies, the need to safeguard and improve the ASST's instrumental and human resources. These were the themes and problems that motivated our interview with Engr Giuseppe Parrella, new director of the ASST, who took office a few months ago and is already hard at work, drawing on the extensive experience he has acquired in the prior positions he has held, to delineate the new ASST and impart new impetus to it, in a transitional phase that without exaggeration can be term epochal, and that is aimed at attainment of new technological but also human goals—goals, that is, in terms of service rendered to the national collectivity and to the telecommunications user.

The fact must not be lost sight of, that telecommunications networks, to which someone has referred as comparable to the superhighways of the future, are in any case, as the most recent CENSIS "report" terms them, one of the supporting pillars of society's socio-economic development.

With managerial air and the pragmatism that is typical of Southern Italy's best men, he leaned forward and addressed the complexity of the sector's problems, leaving it to us to await the first results—results that, knowing the stuff of which Parrella is made, should not be long in making themselves felt.

And now, our interview.

[Question] What is the ASST's role in the current phase of development and change that characterizes the telecommunications world?

[Answer] The ASST is in the position of having to meet, contemporaneously, two challenges: an external one and an internal one.

The external challenge consists of the formidable advent of the new traditional technologies in the telecommunications sector. In the face of this evolution, the ASST cannot stand by passively, but must devote its entire energy and capabilities to seizing all the opportunities to which this evolution gives rise.

The internal challenge has to do with the Italian telecommunications system, which is on the verge of undergoing a necessary streamlining, desired by everyone, leading to a new institutional and operational attitude.

The ASST has so priceless a reserve of managerial and human talent, in the high professional quality of its employees, that it fears neither of these challenges. This undertaking will be all the more positively realized as our strategic planning capability increases.

Thus, the ASST, whose prime objective will be to safeguard and improve this instrumental and human resource, will be able to address any situation whatever from a position of strength.

The ASST, therefore, and with Italy's interest in mind, looks upon the telecommunications sector with the hope of one who seeks new outlets for his productive and entrepreneurial capabilities, with the knowledge that every effort made in this direction must relate to objectives with a plus value-sign. I am referring not only to those "returns" in the form of increased productive activity in terms of goods and services, but also to the most diverse interests connected with telecommunications activities.

There is, however, an aspect that must be emphasized: The conviction that the sector's every game plan must be directed toward forms of cooperation among the European countries, bearing in mind that telecommunications activities cannot be carried out in an "autarchic" manner, but rather that they require the most extensive cooperation.

Things cannot be done in random fashion. Practical and increasingly incisive understandings must be sought. This, however, does not preclude the possibility of autonomous national programs, provided these are also coordinated with those of geographically and politically contiguous countries.

[Question] What is likely to be the size of telecommunications systems in the near future?

[Answer] The growth of telecommunications systems is based on an ongoing uptrend in integration.

Planning must not only include the development of digital networks, ways and means of connecting to them, the types of services to be offered, and the characteristics of the terminals, but must also ensure, for the new networks, the technical and operational compatibility with each other of all the national networks.

The considerable economic and industrial interest inherent in the realization of the new telecommunications infrastructures, beginning with the ISDN, could induce one or another European country to proceed in an isolated manner, with sights set more on relative times of realization of an initial subscriber base than on the need for close cooperation. Such an approach would run counter to the economic and social process of the European countries, which, on the contrary, needs an efficient and homogenous communications system both within and external of the European Economic Community.

The EEC has sought to intervene, and properly so, in a matter that, to the individual country, is essentially technical in nature but that, at the same time, presents significant potential for exerting an impact on important aspects of a country's economic and industrial activity. The RACE program provides an example to be followed toward cooperation between the member countries of the Community and European countries outside the Community, such as Austria and Switzerland.

In this as in every other large-scale project for realizing technologically advanced systems, the inherent difficulties are well known.

[Question] Let's talk about new communications services. What can the future ISDN offer to the telephone subscriber?

[Answer] The ISDN is a public telecommunications network—of the digital type—"integrated" both from the technical standpoint (integration of the transmission and switching facilities) and from that of the services (use of the same transmission facilities for different services, telephony, and the transmission of data and images) with particular reference to present and future requirements of remote data processing; that is, the technique that enables the distant reception, processing, storage, transporting and distribution of information, in real or delayed time, without even a single erroneous bit, via wireline, radio (satellites) or optic fiber facilities.

As regards services, these include the basic services—telephone, telex and telegraph—in addition to all the new "teleservice"—Videotel, Teletex, Facsimile—as well as the so-called "transport" services (that is, those services defined only up to the network interface, excluding definition of the service features of the terminals), and the "valued-added" services (involving a processing of the information).

In other words, services must be prefigured which must subsequently pass the test of effective user-acceptance, which sometimes fails to meet the expectations on which prior planning of the new telematics services had been based.

The ISDN in Italy will begin to attain an initial substantial size around 1990-91 with so-called "narrow-band" subscriber links at 65 Kbps both in the urban and interurban sectors. Subsequently, a "wide-band" ISDN (up to around 2 Mbps) will be built; and thereafter, around the year 2000, an ultrawide-band network will be developed principally in urban areas to provide old and new bidirectional services (ranging from telephone service to video conferencing and beyond), broadcast services (radio, TV), interactive services (pay TV, educational TV, Teleshopping, etc).

It should be noted, however, that during the initial phase, multipurpose use of the ISDM, as an add-on service to regular telephone service, will be available principally to the "business" user, more so than to the "residential" user.

Only later, although in not too distant future, will the extension of the vast above-indicated range of services be able to reach the regular telephone service subscriber in general.

[Question] As to the technological transformation of the network: How is this being done?

[Answer] The realization of the this transformation, because of its technological complexity, requires huge commitments of financial and human resources to develop and engineer it. This is why collaboration is essential.

Only through a combined effort can the desired results be attained within commercially viable timeframes, thus contributing, in a segment of such importance, to the closing of that technological gap that is so often deplored, between Europe and the advanced industries of the american and Japanese giants.

The national specifications for the ISDN must become European specifications, thus imparting a concrete start to a process of industrial synergy, which is so necessary for advanced products.

The imminent start of the first ISDN tests, throughout Europe, points auspiciously toward other more advanced projects: I refer to the IBDN [Integrated Broad-band Digital Network], an objective that may well be attained by the mid-1990's.

The fundamental objective is joint planning of transmission systems, that takes into account the need for a coordinated development of the network and the opportunity to take full advantage of the possibilities offered

by the new technologies, such as optic-fiber cables, via-satellite links, and the digitization of automatic switching and transmission facilities.

The most ambitious goal, still to be thought of with a dynamic evolution in mind, will be the realization of an International Integrated Technical and Services Digital Network.

The attainment of an objective such as this depends solely on the commitment with which we are prepared to address the technical and operational difficulties involved.

It will unquestionably represent the test bed on which the telecommunications sector is measured, if it is to successfully meet the challenge deriving from a society that demands ever more efficient and valid means of communication.

It is a challenge being posed not to any one country, but to all countries. Only a spirit of all-out cooperation, such as has been mutually manifested to date, can produce optimal results.

The planning of networks represents, in the telecommunications sector, a particularly delicate occasion for synthesis, as well as an essential point of departure for subsequent initiatives. It therefore requires a serious approach to the studies involved, but also a large measure of inventiveness and imagination, to arrive at a valid projection of requirements on the part of the users, who desire high-quality services and new telematics facilities.

I am certain that European cooperation will produce the basis for the construction of a European Telecommunications Network fully capable of meeting the requirements of the information society.

[Question] What is the situation as regards submarine cable networks in the Mediterranean?

[Answer] As you know, the Mediterranean is already furrowed by a large number of submarine cables (of the coaxial type) linking the principal countries that border on the Mediterranean to one another and to the rest of the world.

The capacities of the systems installed on those cables are already quite high, but with the growth of traffic volumes they will eventually become insufficient. Moreover, the ever more pressing demand for circuits utilizing digital technology lends urgency to the laying of optic-fiber cables, which, besides being light in weight and inherently economical, can be equipped to carry a very large number of digital circuits designed to support the imminent ISDN.

In connection with the launching of the so-called "Project'80" relative to the new Italian terrestrial optic-fiber cable network, new submarine cables (all optic-fiber) both international and entirely national, were also planned.

Among the entirely national cables let me cite the Messina-Reggio Calabria cable, presently undergoing operational tests, which will carry three 565-Mbps systems (that is, in all, over 20,000 digital, bidirectional telephone channels); the Pomezia-Golfo Aranci cable, currently being installed; and the Palermo-Genoa (via Sardinia) cable, currently at an advanced planning stage.

As regards international optic-fiber cables, a system is now in the realization phase that will link the eastern Mediterranean countries (Turkey, Israel, Greece), via Palermo, thence Spain, thence via cables already in place or being laid, with Northern Europe and the United States.

The system consists of:

—The Palermo-Tel Aviv optic-fiber cable designated EMOS-1, with branches to Lechaina (Greece) and Marmaris (Turkey). The main cable will have three optic-fiber paris equipped with 280-Mbps systems, providing in all the equivalent of 10,000 digital-type, bidirectional telephone channels;

—The Palermo-Estepona (Spain) optic-fiber cable designed MAT-2, consisting, in turn, of one optic-fiber pair equipped with 565-Mbps systems for a total capacity of 7,680 digital-type, bidirectional telephone channels.

The circuits in this cable will be interconnected with the transatlantic optic-fiber cable TAT-9, to complete the link with the United States and Canada.

The agreements concerning the construction and maintenance of these links have already been signed or are in the process of being approved, and the systems are targeted for entry into service between 1990 and 1991.

[Question] Regarding satellites and major optic-fiber arteries: What is the Italian involvement in the improvement of these future communications highways?

[Answer] The future of telecommunications, as you know, is based on two principal means of transmission: optic-fiber cables and satellites.

In the national sphere, the Italsat satellite, the ASST's long-distance optic-fiber network, and the local and regional optic-fiber networks currently being built by the SIP, will provide, beginning in the 1990's, the necessary basic transmission infrastructure for the so-called ISDN, the network, that is, which is to provide a unified support for all the telecommunications and telematics services.

In the international sphere, in addition to the participation by the Ministry of PT and the Telespazio company in the European and Intercontinental satellite programs, it is only right to point out the intensive activity deployed by our agency and by the Italcable company, in cooperation with the other foreign operators concerned, in the planning of the integrated optic-fiber submarine networks for the Mediterranean and Atlantic areas.

As regards the Mediterranean and Atlantic optic-fiber networks, the ASST and Italcable, in close and fruitful cooperation, provided a major contribution to the realization of both projects—that of the Mediterranean integrated network and that of the trans-Atlantic optic-fiber cables.

The two optic-fiber systems are part of a unified plan on which the two entities have, for years, worked as prime movers to overcome the obstacles that have existed, and to convince all the interested countries of the desirability and profitability of this alternate route.

These projects, together with the integrated telecommunications telephone-cable system known as the SEA-ME-WE system (Marseilles-Singapore, with a length of over 14,000 km), which was recently put in service and which links Europe and Asia directly, have imparted a liftoff impetus to the design that aims to make Italy, via Palermo, the telecommunications mooring point of the Mediterranean—that is, a central node for the linking and transit of communications between this geographical area and the principal world traffic matrices: Today, Europe and the Middle and Far East; shortly, the Atlantic Ocean and the Americas.

[Question] Can it be concluded, therefore, that the Italian world-traffic position is destined to become stronger?

[Answer] Italy—which otherwise would have remained at the margin of the world telecommunications system, hence tributary to other countries as regards both terminal and transit traffic—will occupy a strengthened position as a "primary" world center in the international telecommunications network, in the heart of the Mediterranean.

The Mediterranean network represents a new interconnecting bridge to the Atlantic as well, and will respond to the needs of the future as regards new transmission facilities, also for telematics services.

But the pressing emergence of the new needs to develop networks, and the need to ensure that Italy will maintain a prestigious industrial position, still anchored, as it must be, in the world telecommunications market, impose a further closing of the gap in our national productive sector. Even considering the fact that Pirelli's initiative has enabled us to belatedly remedy a situation that had existed for some tens of years and that had become untenable in the light of unfolding events—that of the lack of Italian-made underwater telecommunications systems.

09399/06662

PORTUGAL

Satellite Radio Broadcasts

55002433 Lisbon International Service in Portuguese 1156 GMT 11 Jan 88

[Text] Radio Portugal (RDP) today launched broadcasting via satellite with a classical concert from Italian Radio Television (RAI). It will use Euroradio, a satellite channel, developed by the members of the European Broadcasting Union, to which RDP and Portuguese Television (RTP) belong.

/9274

SWEDEN

Ericsson Gives Telecommunications Market Share Top Priority

55002431 Munich INDUSTRIEMAGAZIN in German Sep 1987 pp 78-83

[Article: "Manager Under Pressure"]

[Text] "Sweden's strength is its weakness," is how Hans Werthen, chairman of Telefon AB LM Ericsson, sums up the most recent coup by its top managers. In April Bjorn Svedberg, chief executive officer of the electronics group, outmaneuvered giants AT&T and Siemens in the Elysee Palace in Paris and thus took home the desirable Compagnie Generale des Constructions Telefoniques (CGCT). To be sure, the enterprise is in need of reorganization, but for the Swedes it now opens the French market to their telecommunications technology.

Svedberg, however, attributes this victory less to the technical quality of his AXE system—the French postal service put it in second place after AT&T— than to his negotiating skill. With the right flair he not only bet on the most influential partner, Matra S. A., but also sold himself successfully as a political alternative.

This chess move had become possible after the rivals had had top politicians from Washington and Bonn call on Paris as lobbyists, which then sent the French government directly into the arms of the neutral Nordic countries.

Exporting information technology hardly seems possible any more without the political trump card. "The fight for market shares is getting tougher every day and is fought with increasingly bigger guns by the sellers," Svedberg states. The large overcapacities which lie fallow due to the changeover from analog to the more expensive but

less personnel-intensive digital technology offer only five to six of the existing 15 competitors a chance for survival in the 1990's, according to industry estimates.

The countdown is running for Ericsson as well. For Sweden's most important electronics and information technology company is financially vulnerable. Large investments in product and market development, as well as grave management errors in office communication have depleted the group's cashboxes.

Nevertheless, Werthen and Svedberg are daring the risky flight forward. Their survival strategy: expansion into communications technology at any cost, even if it has to be financed with expensive credit and company profitability will suffer.

Even so, the profit-sales ratio has been halved since the early 1980's. For 1986 Svedberg generated only 911 million kronor profit before taxes, with a turnover of 31.7 billion kronor (about DM 11 billion).

To blame for the rapid decline in earnings is the unprofitable diversification in office communications, which despite some success at reorganization is still in the red. At the beginning of the 1980's Svedberg recognized that information transfer would merge with information processing and that in the future the telephone as well would have to store data. Entering the computer business was therefore necessary already from the aspect of know-how. Further, he intended to reduce the group's predominant telephone production, which at that time was 50 percent.

In order to be able to offer the "office with one hand," Svedberg added to the company's own activities (branch facilities) when in 1981 he bought Datasaab (chiefly small computers and display units) and in 1983 Facit (telex machines, minicomputers and terminals) and reorganized them into Ericsson Information System (EIS).

Totally overestimating the market, Svedberg then piled up growth rates for EIS of between 20 and 100 percent a year and neglected the cost side to the point that in 1985 the supervisory board saw warning signals light up. EIS showed a negative operating result of 806 million kronor, the equivalent of 7.6 percent of the division's turnover.

Rumors of replacement for the entire top leadership including the chief executive officer were quashed by Hans Werthen, who is also chairman of Electrolux, when he himself entered the operational side of the sister company. Both Electrolux and Ericsson are part of the sphere of influence of Peter Wallenberg, who owns the largest partnership portfolio in Sweden.

Werthen was not a stranger to EIS. In 1973 he had acquired Facit for Electrolux, reorganized it and later sold it to Ericsson at ten times the price, because, as he acknowledged, high-tech products were not his business.

But in this crisis the reorganization professional, who had made Electrolux number one in household equipment all over world by buying ailing companies and subsequently rehabilitating them, sat down at a table with Ericsson managers. Together they began to learn the basics of office communication.

The greatest shortcoming seemed to be the lack of marketing know-how. "Around the world Ericsson had 100 post office customers who were conservative and faithful," the chairman describes the failure. For that reason is was a harsh awakening for the sales people to have to conclude that the office communications customers did not wait for delayed shipments but went to competitors instead. An additional problem was the rapid pace of development for the products and the ensuing permanent drop in price.

To begin with, Werthen replaced the division head. Stig Larsson, former head of construction element subsidiary Rifa, possessed the proper requirements, according to the chairman's taste. He was calm enough to overcome stressful crises, had the gift for keeping a strict regimen and in addition possessed outstanding technological knowledge.

Larsson immediately began to straighten things out. He

—improved quality control and increased on-time deliveries;

—simplified product ranges and markets, for instance pulling out of those countries where products earned little profit;

—reorganized the EIS division, in order to give Facit more room for independence in the future;

—partly allowed the marketing name of Facit, which had been prematurely abolished, to revive, because even today EIS is not quite successful with the customer;

—reduced the staff by about 6000 employees and the external advisors from 450 to 40.

These measures, paired with urgent appeals for saving, in 1986 reduced losses to 284 million kronor. Since then, the management team again believes in the future of the EIS division. It is said that it will show a balanced result by the end of the year. Over the medium term, however, Svedberg harbors no exaggerated profit expectations, since the EIS division is also eating up large investments in product development. Furthermore, all problems have not been solved by a long shot.

The division is still a stranger to the employees of the traditional telephone company. For example, they value technological know-how more than hard work in the market. Industry specialists are also critical, saying that the products offered are partly outdated, there is a lack of follow-up products and the distribution network is not

impressive. In Germany, for instance, the two EIS subsidiaries Ericsson Information Systems GmbH in Duesseldorf and Ericsson Vertriebs-Partner GmbH in Stuttgart have only nine marketing offices and 25 professional dealers for selling their extensive product range (data terminal systems, telephone extensions, computer peripherals, office communication).

To be sure, in the meantime Werthen has transferred employees from management to marketing, but he wants to wait for the success of the restructuring before investing more money in expanding the dealer network.

Larsson will be less tightfisted in the future as regards training. Double- digit million-kronor amounts now flow each year into training the company's operating staff. The division chief also expects increases in turnover through the joint venture with Digital Equipment. Together with the second- largest computer manufacturer in the world, the Swedes now want to develop bank terminal systems and market them on a worldwide basis. DEC will deliver computers, Ericsson terminals and printers.

In the long run, Werthen and Svedberg are convinced, with professional and active marketing the office communication division offers the greatest opportunities for growth in the company.

But the rosy hopes can only end up optimistic if Ericsson is successful in overcoming the narrowing competition in communications technology. Other divisions, such as cable, network establishment and construction elements live off the follow-up orders in this dominant division.

Since the company's fate could be decided in a few years, Svedberg assigns the fight for market shares in communications technology absolute priority.

Ericsson's greatest competitive edge in this struggle—except for the political neutrality—is the company's international experience,' say insiders such as Sean White, president of Northern Business Information.

Most postal services, White explains, wanted security. From the aspect of quality of technology, according to White, there are hardly any differences between the top sellers in the industry.

Ericsson has exported its AXE system, which was developed by Svedberg and to which he owes his career, to 64 countries and successfully adapted it to the respective standards of the postal services there.

These adaptations are expensive for digital technology and are only slowly amortized. The development of a basic system already costs the proud sum of half a billion dollars. In addition, according to the standards and prconditions of each individual postal system, an equally large amount could be necessary for adaptation. Of that, 70 percent alone are for software development costs.

Since Svedberg already has undertaken such a large amount of preliminary work for Great Britain and the United States, profits in the communications technology division have also shrunk by about one third in the last two years.

Just as in France, Svedberg has pushed aside international competitors in Great Britain. In 1985 British Telecom wanted to make itself more independent of the delivery problems and price increases of its domestic companies Plessey and GEC and was therefore looking for a foreign supplier. The Swedes got the contract because they were the most flexible, for example they could deliver most rapidly and at the same time offered the lowest price. According to rumor, they asked only 170 pounds per extension and were thus 30 pounds below the price of the British firms.

Svedberg then founded a joint venture together with the British electronics firm Thorn-Emi. The joint factory in Scunthorpe is designed for a capacity of 750,000 extensions.

Svedberg, who has less than a million extensions on order, is now hoping for a regular annual order of 700,000 to 1 million extensions. Only then will his high adjustment costs become profitable.

British Suppliers Protest

But jealousy is calling the two local competitors as well as nationally minded unions and politicians into action. Since BT in the future wants to give out between 2.3 and 3 million extensions annually, but GEC and Plessey so far received orders for only 1 million extensions each, they are now fearing a reduction in their orders in favor of the newcomer, and the two established national suppliers want to defend themselves against that.

But neither Great Britain nor France—where Ericsson will earn nothing because of the large investments in reorganizing CGCT over the next 2 years—are the cause of Svedberg's biggest headaches, but the United States.

The Swede wants to make a breakthrough on the giant continent which has a 40- percent share of the world telecommunications market. Then Ericsson would have sufficient international standing and order volume to be able to watch the telecommunication wars with calm, Svedberg calculates.

He has already passed the first hurdle. Since the seven American telephone companies, the Bell companies, for reasons of cost have been considering the offers of additional suppliers—up to now AT&T, Northern Telecom and GTE shared the market—Ericsson and Siemens were able to obtain trial orders.

However, software adaptations are particularly expensive in the United States and are costing Svedberg between 300 and 400 million dollars, which will not earn

AXE MOST PROFITABLE:
How turnover and profit are balanced at Ericsson

Divisions	Turnover 1986 in million Swedish kronor	Operating Output 1986 in million Swedish kronor
Communications technology (AXE-systems, telecommunications equipment)	10,316	1,165
Information systems (private telephone installations, personal computers, office equipment)	9,187	-284
Cable	3,618	261
Military systems (aircraft and missile technology)	2,795	255
Wireless and radio systems	2,688	254
Network establishment (production of telecommunications and computer networks, control systems for traffic regulation)	2,201	153
Components	788	31
Total for the group	31,644	2,114

a profit until the market share is 4 percent, White estimates. Optimists Werthen and Svedberg have even set their sights on 10 percent. They calculate firmly with a return on investment in the 1990's.

Despite the high financial stake—modernization of the AXE system at home as well is swallowing 200 million kronor annually—the two managers are risking additional expansion. At the moment they are negotiating an approach to Marconi Espanola, which had been brought into the French Alcatel by ITT. Its dvision for military electronics is now to be separated from the Alcatel network and sold. Since the Spanish company is suffering enormously high losses, however, amounting to about DM 43 million in 1985 with a turnover of DM 140 million, the Swedes want to go easy on their already exhausted finances and are aiming for a cooperation.

The personnel-heavy firm and the Spanish government are enticing Svedberg with an offer of letting Marconi-Ericsson manufacture products in military and communications technology, in order thus to arrange for more employment. This would make expensive social plans superfluous, which in any event Marconi could not afford. If he brings off this negotiating package—he is hoping for more orders from the state-owned telephone company Telefonica in return for his employment contribution at Marconi—he could increase his market share in telecommunications on the Iberian peninsula by about 10 to 35 percent.

The scheming Swedes also do not want to let any opportunity to strengthen any of their divisions internationally slip through their hands. Best of all, Svedberg would like to have "a network of alliances" with every available partner in order to be able expand while saving money. The easiest way to do so is cooperation agreements in the field of mobile communication. Here he is able to offer the most, since he and Motorola share leadership in the world market. Of the 1.4 million mobile telephones sold in the world, 500,000 were made by Ericsson. The group already dominates the domestic Scandinavian market, but even in the United States the Swedes have captured a 15-percent market share and in Canada as much as 45 percent.

"The mobile telephone is only in its infancy," Svedberg muses. Beginning with the early 1990's, when the new generation of digital equipment becomes cheaper, business will really take off: the market for mobile communication in Europe will grow from DM 6 billion today to DM 15 billion, according to promising industry prognoses. With these perspectives, the electronics giants are already fighting for the best partners and the foremost starting places.

After the CGCT deal in France, the Ericsson manager thus signed a cooperation agreement for car telephones with Matra. It includes both development, production and marketing of mobile communication for the pan-European car telephone network. "Although for the moment the participation in CGCT is more significant because of its volume, in the long run the cooperation with Matra for mobile telephones will be more important," the Swedish top manager believes.

In Great Britain the managers of Plessey and Racal Electronics, which have just founded the joint venture Orbitel Mobile Communications, have asked the Swedes to sit down at the negotiating table as potential partners.

Offered the Italians Participation

Svedberg has also found something in Germany. In order to be in on the ground floor of the anticipated liberalization in the telephone field, in January he linked himself with Siemens AG for the development of a digital mobile telephone system, after Bosch had declined. The costs for this product of the 1990's: one billion Swedish kronor.

But with all their love of alliances, nationally minded managers Werthen and Svedberg are not losing sight of one goal: Ericsson must remain independent at all cost—with certain reservations.

For example, they offered Holding Telit, which was founded by Italtel and Telettra and to which both companies brought their telecommunications activities, a barter deal: five to ten percent of Ericsson's shares for cooperation in Telit.

Whether this barter will actually become reality is still in doubt, however. As always, old acquaintances are also bidding: AT&T, Alcatel, Northern Telecom and Siemens have submitted their own attractive offers to the Italians.

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TURKEY

Use of Fiber Optics by Post, Telecommunications

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[Article by Abdurrahman Altinesik, chief engineer of the PTT Network Maintenance and Operation Group]

[Excerpt] Installation of Optical Fiber Cables in PTT

The LM Ericsson company began installing optical fiber cables in Ankara in February 1985. Initially, eight turnkey lines were put into service. These include a 40-kilometer low-loss single-mode optical fiber cable that connects TRT [Turkish Radio and TV Administration] to an earth satellite station and Yenisehir. This line was installed without any repeaters and currently carries five duplex systems (5 x 1920 channels).

Beginning in June 1985, PTT [Post, Telephone and Telegraph Administration] workers installed optical fiber cables over 11 lines in Ankara over a period of 3 months. The workers carried out the supplementary and measurement work, assembled the necessary equipment and put the system into service.

Currently, there are 23 installed optical fiber lines in Ankara used for linking switching stations [telephone exchanges].

Fifty percent of the optical fiber capacity needed to link telephone exchanges in the Ankara metropolitan area has been installed. All existing telephone exchanges with a capacity of over 10,000 lines are linked by optical fiber cable. Moreover, 19 exchanges, including the earth satellite station, are linked to the Central exchange in Ulus; seven exchanges are connected to the Yenisehir central exchange, and three exchanges are connected to the Incesu exchange.

The traffic among Ankara's exchanges is routed through the Central, Yenisehir and Incesu exchanges.

When all the exchanges in Ankara are linked by optical fiber cables, telephone service will no longer be interrupted because all the exchanges will have alternative backup routes. If one of the lines fails, an alternative line will instantaneously take over; the problem can be resolved with virtually no interruption, and the damaged cable can be repaired very easily.

In addition to Ankara, optical fiber cable connections have been installed in Istanbul, Izmir, Adana, Konya, Mersin and several other provinces; work is continuing to connect all exchanges to each other by optical fiber cable.

Although the optical fiber system began to be installed in our country only in 1985, the cable used is the most advanced type that is used in industrialized countries.

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